Department of Planning and Zoning
149 Church Street
Burlington, VT 05401
Telephone:(802) 865-7188
(802) 865-7195 (FAX)
(802) 865-7142 (TTY)

David White, AICP, Director
Ken Lerner, Assistant Director
Sandrine Thibault, AICP, Comprehensive Planner
Jay Appleton, GIS Manager
Scott Gustin, AICP, Senior Planner
Mary O'Neil, AICP, Senior Planner
Nic Anderson, Zoning Clerk
Elsie Tillotson, Department Secretary

TO: Development Review Board
FROM: Scott Gustin
DATE: April 2, 2013
RE: 12-0776CA/MA amendment; 151 St. Paul Street & 101 Main Street

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Note: These are staff comments only; decisions on projects are made by the Development Review Board, which may approve, deny, table or modify any project. THE APPLICANT OR REPRESENTATIVE MUST ATTEND THE MEETING.

Zone: DT Ward: 5

Owner/Applicant: Catamount – Howard II

Request: Amend ZP#12-0776CA/MA (139 room hotel and parking garage) for changes to main entryway, fenestration, materials, parking, landscaping, and utilities.

Applicable Regulations:
Article 6 (Development Criteria & Guidelines), Article 8 (Parking)

Background Information:
The applicant is requesting approval for a variety of modest changes to the recently approved hotel and parking garage. The scope of the project and the uses included remain unchanged. Proposed changes relate largely to the main entrance, fenestration, parking, landscaping, and utilities. The most recent project plans are a substantial improvement over the previous submission and reflect only minor changes to the development.

Previous zoning actions for this property are listed below.

- 9/18/12, Approval of revised porte-cochere and entry for new hotel
- 6/5/12, Approval of proposed 139-room hotel and associated parking garage
- 9/4/07, Approval of final plat application for mixed use office and apartment building and associated site modifications
- 2/27/07, Approval of preliminary plat application for mixed use office and apartment building and associated site modifications
- 11/1/06, Approval for rooftop, doorway, and garage modifications
- 6/2/06, Approval to eliminate office component of condo/office building and expand condo use by 2 units for a total of 16
- 12/20/05, Approval to convert office building to condo/office building mix and associated parking garage
- 8/25/05, Approval of 2 parallel signs
- 9/24/04, Approval of fenestration and entryway restoration

Recommendation: **Certificate of Appropriateness approval** as per, and subject to, the following findings and conditions:

I. Findings

Article 6: Development Review Standards:
Part 1, Land Division Design Standards
Not applicable.

Part 2, Site Plan Design Standards
Sec. 6.2.2, Review Standards
(a) Protection of important natural features
(Not applicable)

(b) Topographical alterations
(Not applicable)

(c) Protection of important public views
(Not applicable)

(d) Protection of important cultural resources
(Not applicable)

(e) Supporting the use of alternative energy
(Not applicable)

(f) Brownfield sites
(Not applicable)

(g) Provide for nature's events
The underground HDPE pipe used for collection and retention of stormwater runoff will be relocated; however, its performance will remain unchanged. **(Affirmative finding)**

(h) Building location and orientation
(Not applicable)

(i) Vehicular access
(Not applicable)

(j) Pedestrian access
(Not applicable)

(k) Accessibility for the handicapped
(Not applicable)

(l) Parking and circulation

Parking and circulation remain largely unchanged except for the introduction of 5 additional tandem parking spaces within the garage and the conversion of a row of formerly asphalt spaces to pervious paver spaces in front of the garage. **(Affirmative finding)**

(m) Landscaping and fences
Some minor landscaping changes are proposed. Most changes are associated with the relocation of the main entry and porte-cochere closer to Main Street. The general layout and effect of the landscaping remains unchanged. A couple of new trees along the interior circulation isle have been added. The landscaping around the sculpture garden on St. Paul Street has been revised slightly and a final selection for the sculpture has been made. Per condition #4 of the original project approval, the sculpture garden will require review by the Design Advisory Board. **(Affirmative finding)**

(n) Public plazas and open space
(Not applicable).

(o) Outdoor lighting
Outdoor lighting is minimally changed. Fixture locations have been revised to coincide with the revamped entrance location and associated walkway layout. **(Affirmative finding)**

(p) Integrate infrastructure into the design
The hotel entry into the Armory building, including the associated porte-cochere, has been shifted closer to Main Street in order to make room for a trash compactor/dumpster and an electrical transformer. These items will be contained and fully screened within an enclosure. **(Affirmative finding)**

Part 3, Architectural Design Standards
Sec. 6.3.2, Review Standards
(a) Relate development to its environment

1. Massing, Height, and Scale
The overall massing, height, and scale of the proposed hotel remain essentially unchanged. The most recent project plans contain only minor changes to the building outline. As revised, the design continues to successfully break up the overall massing and scale of the structure with distinct building components, varying façade planes, and architectural elements. **(Affirmative finding)**

2. Roofs and Rooflines
The original project design incorporated varying heights and segments into the building's flat roof. As most recently revised, the project plans continue to do so. **(Affirmative finding)**

3. Building Openings
Only slight changes to fenestration are depicted in the most recent project plans. It continues to be appropriately patterned with some diversity and is successfully used to accentuate distinct building elements. **(Affirmative finding)**

(b) Protection of important architectural resources
The proposed changes do not affect nearby historic buildings. **(Affirmative finding)**

(c) Protection of important public views
See 6.2.2 (c) above.

(d) Provide an active and inviting street edge
Significant attention was given to the hotel's Main Street and St. Paul Street facades under the previous permit review. The end result entailed an active and inviting street presence with dual building entries. The main entrance and porte-cochere into the Armory required additional review by the Design Advisory Board and Development Review Board before finally being approved. The entries from St. Paul Street and Main Street remain as does the porte-cochere, but the design has been altered from what was previously approved after extensive review. The revisions to the porte-cochere are fairly modest and are acceptable. **(Affirmative finding)**

(e) Quality of materials
The most recent project plans depict the same building materials as originally approved, albeit in slightly different configuration. The materials consist of dark gray brick, corrugated steel panels, and high density timber-faced panels. Metal framed windows are proposed, and roofing will consist of EPDM material. **(Affirmative finding)**

(f) Reduce energy utilization
(Not applicable)

(g) Make advertising features complimentary to the site
(Not applicable)

(h) Integrate infrastructure into the building design
The rooftop mechanical enclosure depicted on the original approval has been changed slightly. It consists of three smaller components and is depicted on the revised elevation drawings.
(Affirmative finding)

(i) Make spaces safe and secure
(Not applicable)

Article 8: Parking
Sec. 8.1.8, Minimum Off-Street Parking Requirements
Minimal changes to parking are proposed. The variety of uses within the subject block requires a total of 202 parking spaces, and 228 spaces were originally approved. An additional 5 spaces are to be provided (for a new total of 233) within the garage as part of the proposed amendment.
(Affirmative finding)

Sec. 8.2.5, Bicycle Parking Requirements
The proposed hotel and parking garage require a total of 11 long term bicycle parking spaces and 14 short term bicycle parking spaces. The amended project plans continue to include acceptable long term bicycle parking spaces. Short term bike parking has been modified to delete racks by the hotel's main entry in favor of 7 "U" racks in within the Main Street right-of-way. The city's Transportation Planner, Bicycle & Pedestrian Program Manager, Environmental Planner has accepted this revision; however, it will require approval by the City Council. The 7 "U" racks will provide spaces for 14 bikes. **(Affirmative finding as conditioned)**

II. Conditions of Approval

1. Except as specifically modified in this approval, all conditions of the original project approval (zoning permit 12-0776CA/MA dated 6/5/12) shall remain in effect.
2. The "U" bike racks installed within the public right-of-way require review and approval by the Department of Public Works and the City Council prior to installation.
3. Standard permit conditions 1-15.

PROPOSED HOTEL

101 MAIN STREET & 151 ST. PAUL STREET

BURLINGTON, VERMONT

PREPARED BY:

OPECHEE
CONSTRUCTION CORPORATION

11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603)527-9191

FEBRUARY 13, 2013

OWNER/APPLICANT:
CATAMOUNT/HOWARD II, LLC
210 COLLEGE STREET
BURLINGTON, VT 05401

AGENT:
OPECHEE CONSTRUCTION CORPORATION
11 CORPORATE DRIVE
BELMONT, NH 03220

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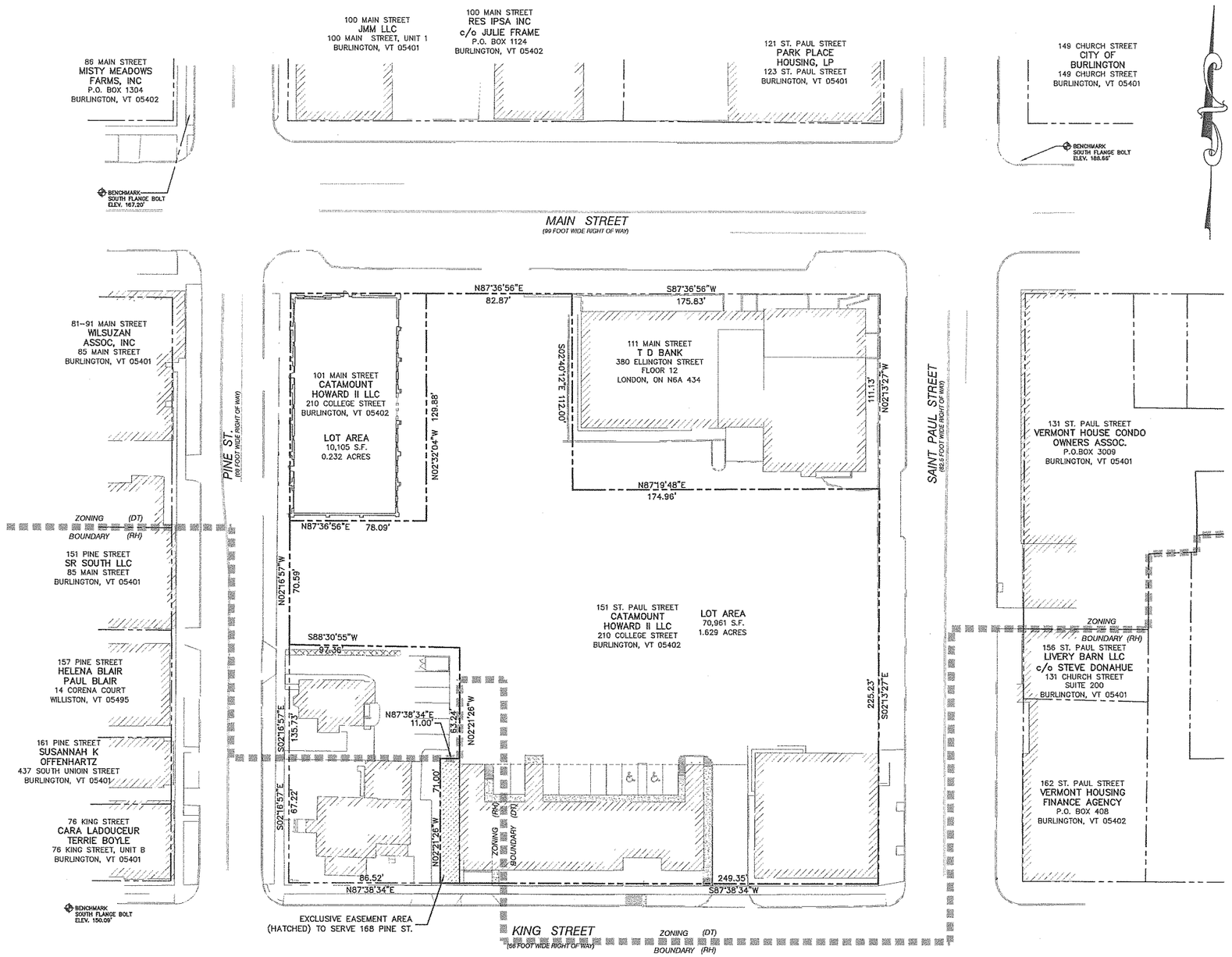

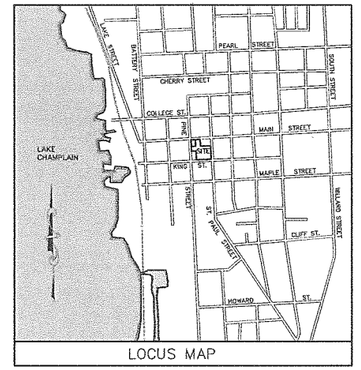

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210 COLLEGE STREET
BURLINGTON, VT 05401

AGENT:

OPECHEE CONSTRUCTION CORPORATION
11 CORPORATE DRIVE
BELMONT, NH 03220

GENERAL NOTES:

1. THE LOT IS LOCATED IN THE DOWNTOWN TRANSITION DISTRICT (SOUTH SIDE OF MAIN STREET).
2. ZONING REQUIREMENTS:

   MIN. YARD SETBACKS:
   FRONT = 0' OR 12' FROM CURB (WHICHEVER IS GREATER)
   SIDE = 0'
   REAR = 0'
   MAXIMUM INTENSITY = 5.5 FLOOR AREA RATIO
   MINIMUM BUILDING HEIGHT = 30'
   MAXIMUM BUILDING HEIGHT = 65'
3. ELEVATIONS ARE BASED ON FIELD SURVEY AND NGS DATUM.
4. THE SUBJECT LOT IS NOT LOCATED IN A FLOOD HAZARD ZONE.

PLAN REFERENCES:

1. "PROPOSED BOUNDARY ADJUSTMENT, EXTINGUISH 88 KING STREET LOT, MAKING IT PART OF LOT 2." BY CIVIL ENGINEERING ASSOCIATES, INC. DATED AUGUST 2006.

REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY

OPECHEE CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

PROPERTY INFORMATION

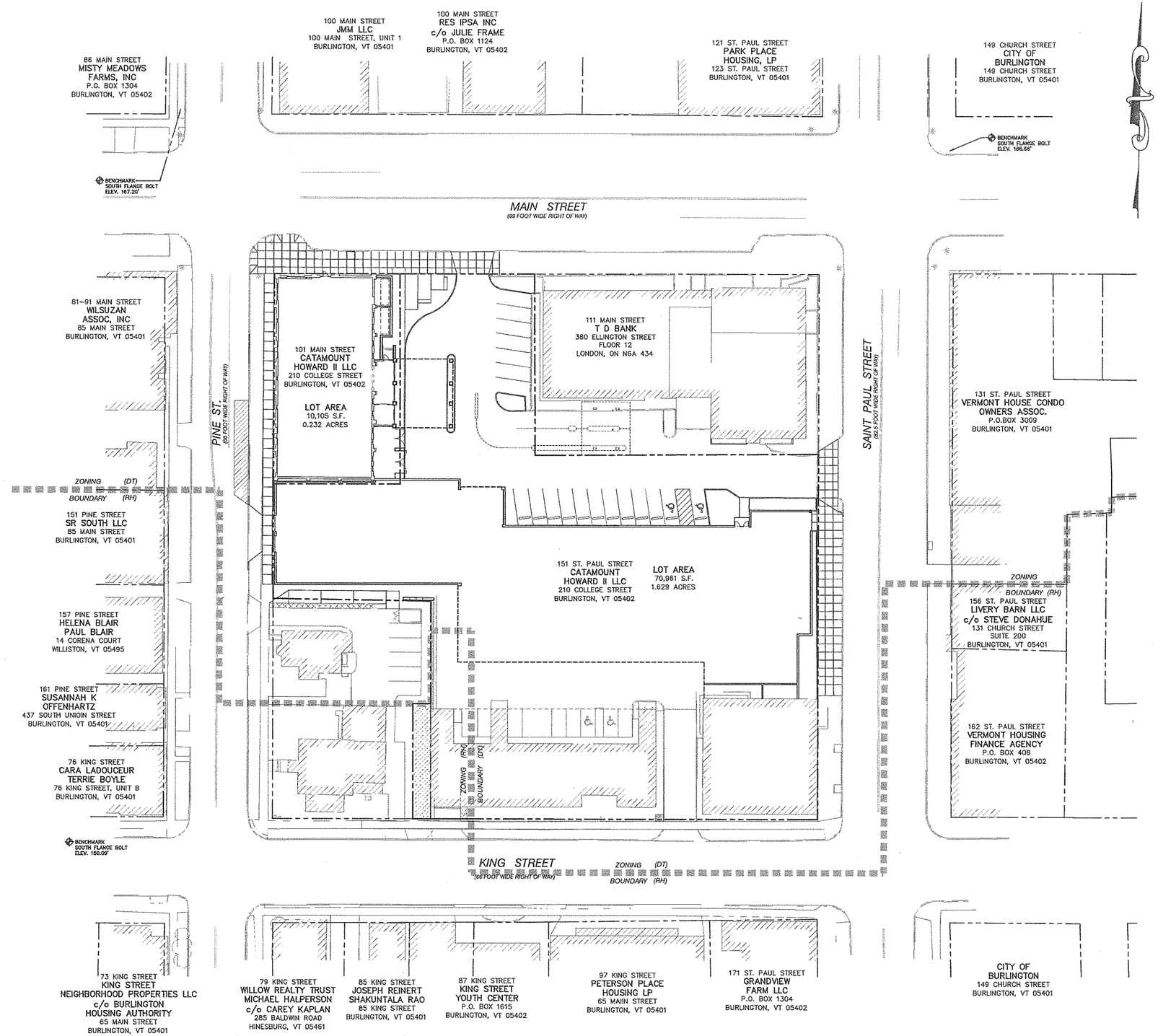
PROJECT: PROPOSED HOTEL BURLINGTON, VT.

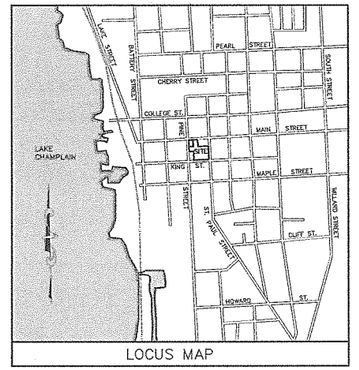
GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

DATE:	02-13-13
SCALE:	1"=30'
DRAWN BY:	SML

C01

SHEET: 1 OF 20





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CATAMOUNT/HOWARD II, LLC
210 COLLEGE STREET
BURLINGTON, VT 05401

AGENT:

OPECHEE CONSTRUCTION CORPORATION
11 CORPORATE DRIVE
BELMONT, NH 03220

GENERAL NOTES:

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GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

RECEIVED
MAR 27 2013
DEPARTMENT OF PLANNING & ZONING

REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY

OPECHEE CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9990 FAX (603) 527-9191

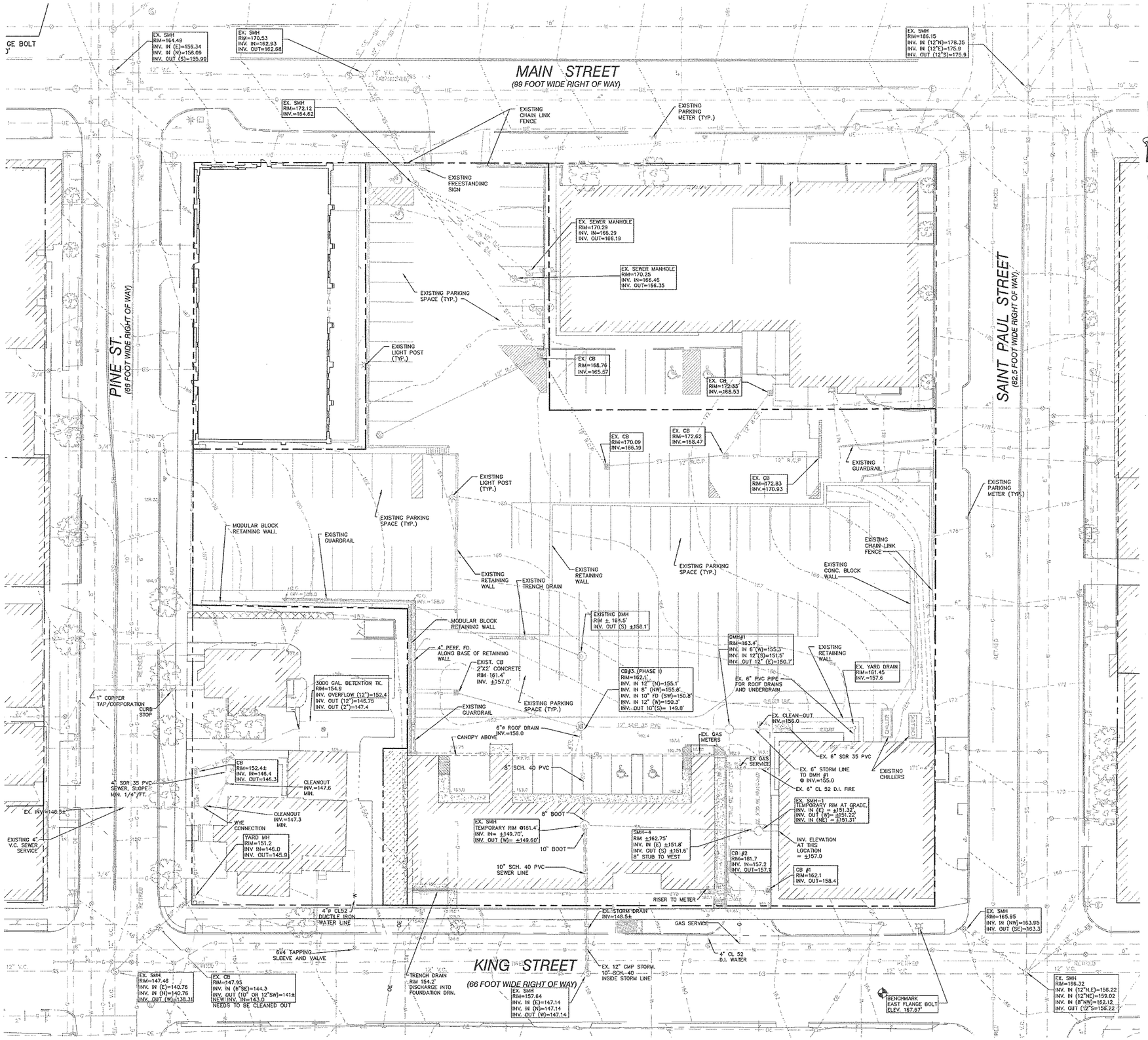
OVERALL SITE PLAN

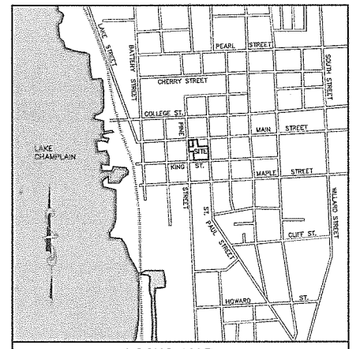
PROJECT: PROPOSED HOTEL BURLINGTON, VT

DATE:	02-13-13
SCALE:	1"=30'
DRAWN BY:	SML

C02

SHEET: 2 OF 20





LOCUS MAP

OWNER/APPLICANT:

CATAMOUNT/HOWARD II, LLC
210 COLLEGE STREET
BURLINGTON, VT 05401

AGENT:

OPECHEE CONSTRUCTION CORPORATION
11 CORPORATE DRIVE
BELMONT, NH 03220

GENERAL NOTES:

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   REAR = 0'
   MAXIMUM INTENSITY = 5.5 FLOOR AREA RATIO
   MINIMUM BUILDING HEIGHT = 30'
   MAXIMUM BUILDING HEIGHT = 65'
3. ELEVATIONS ARE BASED ON FIELD SURVEY AND NGS DATUM.
4. THE SUBJECT LOT IS NOT LOCATED IN A FLOOD HAZARD ZONE.
5. EXISTING LOT COVERAGE
   101 MAIN STREET (10,105 SF)
   BUILDING = 9,242
   PAVEMENT = 25
   SIDEWALK/CONCRETE = 205
   TOTAL 9,472/10,105 = 94%
   111 MAIN STREET (19,568 SF)
   BUILDING = 12,612
   PAVEMENT = 2,968
   SIDEWALK/CONCRETE = 1,194
   TOTAL 16,774/19,568 = 86%
   151 ST PAUL STREET (70,961 SF)
   BUILDING = 13,780
   PAVEMENT/GRAVEL = 52,168
   SIDEWALK/CONCRETE = 1,843
   TOTAL 67,791/70,961 = 96%

PLAN REFERENCES:

1. "PROPOSED BOUNDARY ADJUSTMENT, EXTINGUISH 88 KING STREET LOT, MAKING IT PART OF LOT 2." BY CIVIL ENGINEERING ASSOCIATES, INC. DATED AUGUST 2006.

RECEIVED
MAR 27 2013
DEPARTMENT OF PLANNING & ZONING

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY

OPECHEE CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

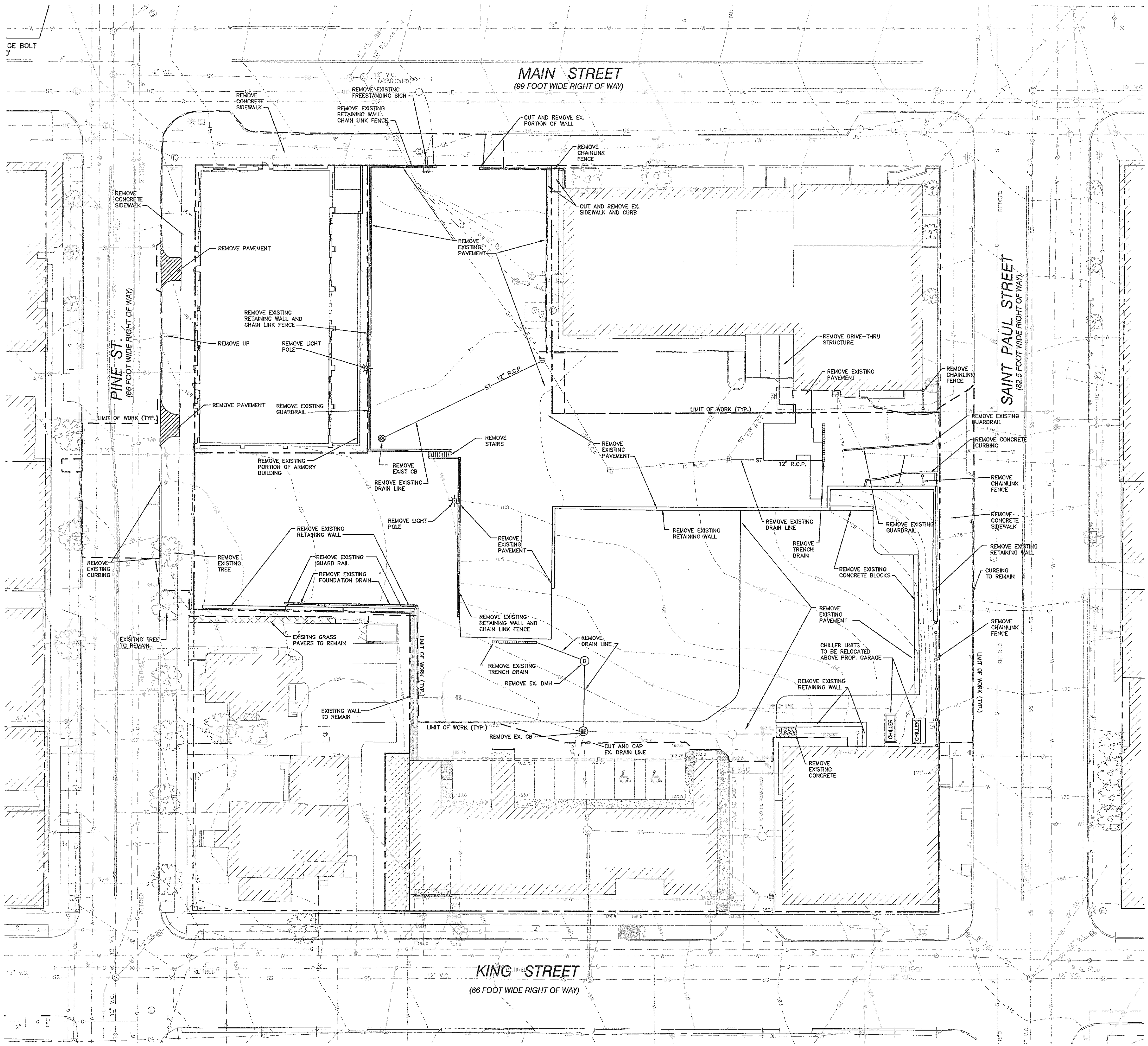
EXISTING CONDITIONS

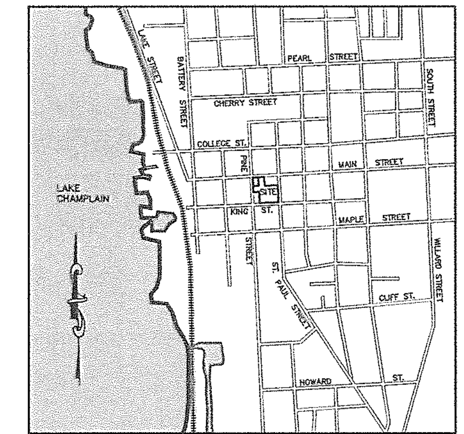
PROJECT: PROPOSED HOTEL
BURLINGTON, VT

DATE: 02-13-13
SCALE: 1"=20'
DRAWN BY: SML

C03

SHEET: 3 OF 20


MAIN STREET
(99 FOOT WIDE RIGHT OF WAY)
KING STREET
(66 FOOT WIDE RIGHT OF WAY)
PINE ST.
(66 FOOT WIDE RIGHT OF WAY)
SAINT PAUL STREET
(82.5 FOOT WIDE RIGHT OF WAY)
REMOVE CONCRETE SIDEWALK
REMOVE EXISTING FREESTANDING SIGN
REMOVE EXISTING RETAINING WALL. CHAIN LINK FENCE
CUT AND REMOVE EX. PORTION OF WALL
REMOVE CHAINLINK FENCE
CUT AND REMOVE EX. SIDEWALK AND CURB
REMOVE EXISTING PAVEMENT
REMOVE CONCRETE SIDEWALK
REMOVE PAVEMENT
REMOVE EXISTING RETAINING WALL AND CHAIN LINK FENCE
REMOVE UP
REMOVE LIGHT POLE
REMOVE PAVEMENT
REMOVE EXISTING GUARDRAIL
LIMIT OF WORK (TYP.)
ST 12" R.C.P.
REMOVE EXISTING PORTION OF ARMORY BUILDING
REMOVE EXIST CB
REMOVE EXISTING DRAIN LINE
REMOVE STAIRS
REMOVE DRIVE-THRU STRUCTURE
REMOVE EXISTING PAVEMENT
REMOVE CHAINLINK FENCE
LIMIT OF WORK (TYP.)
REMOVE EXISTING GUARDRAIL
REMOVE CONCRETE CURBING
REMOVE EXISTING PAVEMENT
12" R.C.P.
REMOVE CHAINLINK FENCE
REMOVE LIGHT POLE
REMOVE EXISTING PAVEMENT
REMOVE EXISTING RETAINING WALL
REMOVE EXISTING DRAIN LINE
REMOVE TRENCH DRAIN
REMOVE EXISTING GUARDRAIL
REMOVE CONCRETE SIDEWALK
REMOVE EXISTING RETAINING WALL
REMOVE EXISTING CONCRETE BLOCKS
CURBING TO REMAIN
REMOVE EXISTING RETAINING WALL
REMOVE EXISTING CURBING
REMOVE EXISTING TREE
REMOVE EXISTING GUARD RAIL
REMOVE EXISTING FOUNDATION DRAIN
REMOVE EXISTING RETAINING WALL AND CHAIN LINK FENCE
REMOVE EXISTING PAVEMENT
REMOVE CHAINLINK FENCE
EXISITNG TREE TO REMAIN
EXISITNG GRASS PAVERS TO REMAIN
LIMIT OF WORK (TYP.)
REMOVE DRAIN LINE
REMOVE EXISTING TRENCH DRAIN
REMOVE EX. DMH
CHILLER UNITS TO BE RELOCATED ABOVE PROP. GARAGE
REMOVE EXISTING RETAINING WALL
EXISITNG WALL TO REMAIN
LIMIT OF WORK (TYP.)
REMOVE EX. CB
CUT AND CAP EX. DRAIN LINE
CHILLER
CHILLER
REMOVE EXISTING CONCRETE
LIMIT OF WORK (TYP.)



LOCUS MAP

GENERAL NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW EXISTING BUILDINGS, UTILITIES, IMPERVIOUS SURFACES AND OTHER MISCELLANEOUS ITEMS TO BE REMOVED FROM THE SITE.
2. CONTACT DIG SAFE AT 811 72 HOURS PRIOR TO COMMENCING CONSTRUCTION/DEMOLITION.
3. THE LOCATION OF ALL UNDERGROUND UTILITIES, SEWER LINES, DRAIN LINES, ETC. ARE APPROXIMATE. SITE SUBCONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES PRIOR TO COMMENCING CONSTRUCTION/DEMOLITION.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

STATE OF VERMONT STEPHEN M. LANG No. 6220 CIVIL LICENSED PROFESSIONAL ENGINEER

REVISION SCHEDULE		
DATE	REVISION DESCRIPTION	BY
		SML

OPECHEE CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

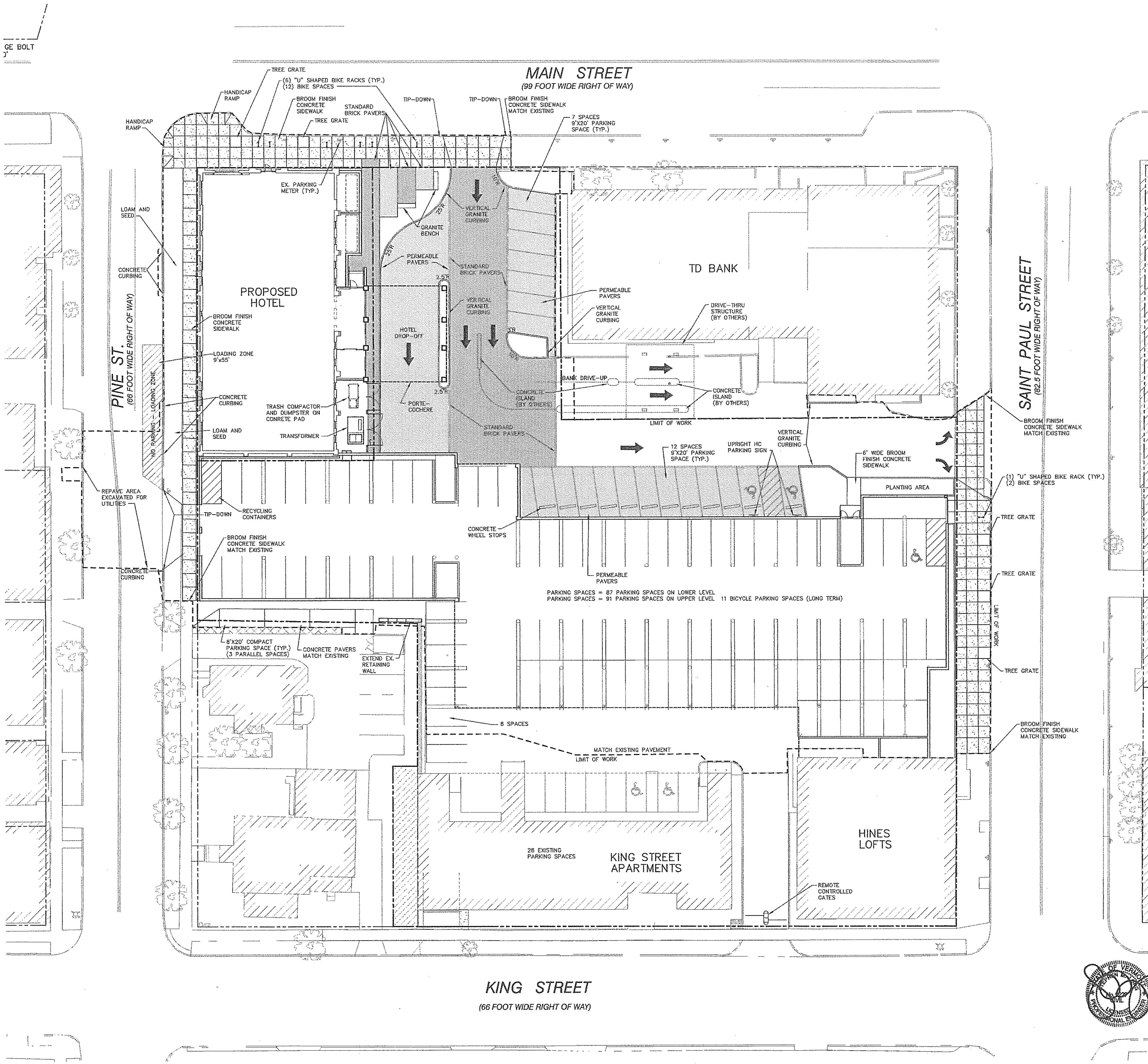
DEMOLITION PLAN

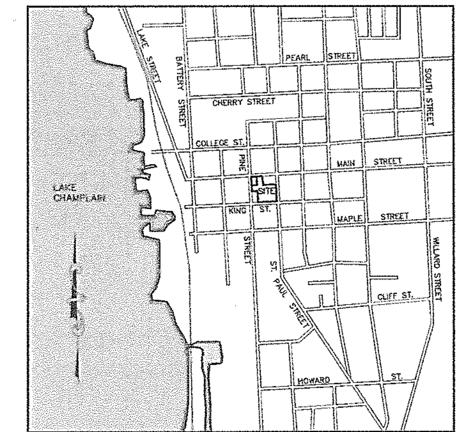
PROJECT: PROPOSED HOTEL
BURLINGTON, VT

DATE:	02-13-13
SCALE:	1"=20'
DRAWN BY:	SML

C04

SHEET: 4 OF 20





LOCUS MAP

OWNER/APPLICANT:

CATAMOUNT/HOWARD II, LLC
210 COLLEGE STREET
BURLINGTON, VT 05401

AGENT:

OPECHEE CONSTRUCTION CORPORATION
11 CORPORATE DRIVE
BELMONT, NH 03220

GENERAL NOTES:

1. THE LOT IS LOCATED IN THE DOWNTOWN TRANSITION DISTRICT (SOUTH SIDE OF MAIN STREET).
2. ZONING REQUIREMENTS:

   MIN. YARD SETBACKS:
   FRONT = 0' OR 12' FROM CURB (WHICHEVER IS GREATER)
   SIDE = 0'
   REAR = 0'
   MAXIMUM INTENSITY = 5.5 FLOOR AREA RATIO
   MINIMUM BUILDING HEIGHT = 30'
   MAXIMUM BUILDING HEIGHT = 65'
   MAXIMUM LOT COVERAGE = 100%

3. ELEVATIONS ARE BASED ON FIELD SURVEY AND NGS DATUM.
4. THE SUBJECT LOT IS NOT LOCATED IN A FLOOD HAZARD ZONE.
5. PARKING REQUIREMENTS:

BANK = 1/1000 SF = 35,000/1,000 x 1	= 35 SPACES
KING STREET	
OFFICE = 2/1000 SF = 13,616/1,000 x 2	= 27 SPACES
RESID. = 1/UNIT = 20 UNITS	= 20 SPACES
HINDS LOFTS	
RESID. = 1/UNIT = 15 UNITS	= 15 SPACES
HOTEL = 0.75/ROOM = 139 ROOMS	= 105 SPACES
	202 SPACES REQUIRED
	233 SPACES PROVIDED

6. PARKING NOTES
   - HOTEL AND BANK WILL SHARE PARKNG.
   - HOTEL EMPLOYEES WILL USE SATELITE PARKING AND SHUTTLE SERVICE.
   - HOTEL WILL INCLUDE 24 HOUR VALET SERVICE WITH PARKING STACKING PLAN.
   - PRIME SPACES WILL BE RESERVED FOR CARSHARE, CARPOOL, OR VANPOOL.
   - 101 MAIN STREET IS GRANDFATHERED WITH NO PARKING.
7. PROPOSED LOT COVERAGE

101 MAIN STREET (10,105 SF)	
BUILDING	= 8,070
PAVEMENT	= 0
SIDEWALK/CONCRETE	= 310
TOTAL	8,380/10,105 = 83%

111 MAIN STREET (19,568 SF)	
BUILDING	= 13,669
PAVEMENT	= 1,705
SIDEWALK/CONCRETE	= 958
TOTAL	16,332/19,568 = 83%

151 ST PAUL STREET (70,961 SF)	
BUILDING	= 40,880
PAVEMENT	= 10,520
SIDEWALK/CONCRETE	= 1,193
PERMEABLE PAVERS	= 12,590
TOTAL	65,183/70,961 = 92%

8. FLOOR AREA RATIO (151 ST. PAUL STREET)

HINDS LOFTS	=	23,000 SF
KING STREET	=	36,309 SF
HOTEL	=	133,796 SF
		193,105/70,961 = 2.7 PROPOSED 5.5 ALLOWED

9. BIKE PARKING
   HOTEL
   LONG TERM = 1 SPACE/20 ROOMS = 139/20 x 1 = 7 SPACES
   SHORT TERM = 2 SPACE/20 ROOMS = 139/20 x 2 = 14 SPACES
   PARKING
   LONG TERM = 4 OR 5% OF GARAGE SPACES = 4 SPACES
   SHORT TERM = NONE

PLAN REFERENCES:

1. "PROPOSED BOUNDARY ADJUSTMENT, EXTINGUISH 88 KING STREET LOT, MAKING IT PART OF LOT 2." BY CIVIL ENGINEERING ASSOCIATES, INC. DATED AUGUST 2006.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

REVISION SCHEDULE		
DATE	REVISION DESCRIPTION	BY
03-12-13	ADDED BIKE RACKS AND TREE GRATES	SML

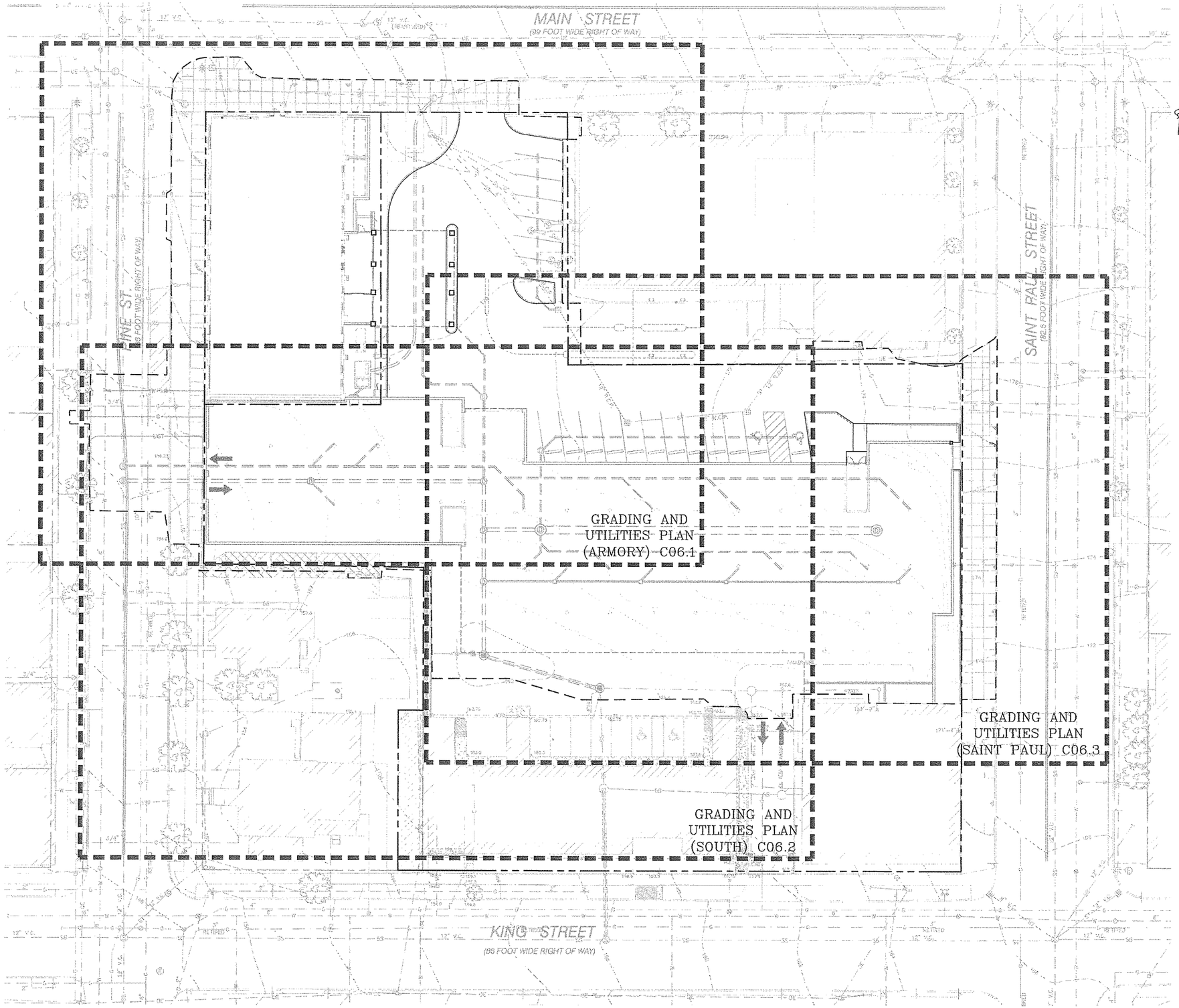
OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

SITE PLAN

PROJECT: PROPOSED HOTEL
BURLINGTON, VT

DATE: 02-13-13
SCALE: 1"=20'
DRAWN BY: SML

C05



GENERAL NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE GRADING AND DRAINAGE ASSOCIATED WITH CONSTRUCTION OF THE PROPOSED 2-STORY PARKING GARAGE AND 4-STORY HOTEL BUILDING.
2. LOAM TO BE SCREENED PRIOR TO SPREADING.
3. ALL AREAS, UNLESS OTHERWISE SPECIFIED, SHALL BE HYDROSEEDED.
4. UNLESS OTHERWISE SPECIFIED, ALL HDPE DRAINAGE PIPE SHALL BE SMOOTH BORE WITH A MANNINGS VALUE OF 0.012.
5. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE GENERAL CONTRACTORS PROJECT MANAGER FOR DIRECTION AND RESOLUTION PRIOR TO ANY FURTHER WORK.
6. UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE SHOWN IN SCHEMATIC FASHION. THEIR LOCATIONS AND ELEVATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN USING THIS PLAN TO LOCATE THE UTILITY SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THAT UTILITY OF INTEREST FOR LOCATION AND INFORMATION REGARDING THE SERVICE. CALL DIG SAFE AT 1-888-DIG SAFE. SITE SUBCONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS, DIMENSIONS, AND GRADES. PRIOR TO START OF ANY FOUNDATION OR UTILITY WORK.
7. SEWER DISCHARGES SHALL BE DOMESTIC ONLY. PROPOSED SEWER DESIGN FLOWS WILL BE 17,440 GALLONS PER DAY.
8. ALL NEW MUNICIPAL UTILITY SERVICES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF BURLINGTON'S APPLICABLE CONSTRUCTION STANDARDS & SPECIFICATIONS.
9. SEWER AND WATER SHALL BE HAVE A MINIMUM COVER IN ACCORDANCE WITH THE ABOVE NOTE #8 OR 5.5 FEET. WHICH EVER IS GREATER.
10. SITE SUBCONTRACTOR SHALL INSTALL CONCRETE THRUST BLOCKS AT ALL DUCTILE IRON WATER MAIN BENDS, TEES, VALVES, AND DEAD ENDS IN ACCORDANCE WITH THE ABOVE NOTE #8

CONSTRUCTION SEQUENCING:

1. PERFORM DEMOLITION AS DEPICTED ON THE SHEET C04.
2. INSTALL EROSION CONTROLS AS SPECIFIED ON THE PLAN AND MAINTAIN UNTIL THE SITE IS STABILIZED.
3. CONSTRUCT ANY ADDITIONAL TEMPORARY BMP CONTROLS AS NECESSARY (I.E. DIVERSION DIKES, DIVERSION SWALES, ETC...).
4. STRIP AND REMOVE LOAM.
5. REMOVE ANY UNSUITABLE MATERIALS AND/OR SOILS.
6. PERFORM CUTS AND FILLS AS REQUIRED.
7. TEMPORARILY SEED ALL CUT AND FILL SLOPES IMMEDIATELY AFTER THEIR CONSTRUCTION. ALSO TEMPORARILY SEED ALL AREAS WHICH WILL BE LEFT UNDISTURBED FOR MORE THAN 14 DAYS WITHIN 7 DAYS OF LAST CONSTRUCTION ACTIVITY IN THAT AREA.
8. INSTALL STORMWATER CLOSED DRAINAGE AS REQUIRED.
9. INSTALL WASTEWATER DISPOSAL COMPONENTS AS REQUIRED.
10. INSTALL ALL OTHER UTILITIES AND LIGHT POLE BASES AS REQUIRED.
11. PLACE BANK RUN AND CRUSH GRAVELS IN STRUCTURAL AREAS.
12. FINISH GRADE AND CONSTRUCT ALL EXTERIOR CONCRETE SIDEWALK AND PADS. (PROVIDE SLEEVES FOR IRRIGATION)
13. INSTALL IRRIGATION SYSTEM AS REQUIRED
14. FINISH GRADE AND CONSTRUCT AREAS OF BASE COURSE PAVEMENT.
15. INSTALL LOAM, PERMANENT SEED, SOD AND MULCHING.
16. COMPLETE FINAL PAVING (WEARING COURSE).
17. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE TEMPORARY EROSION CONTROL MEASURES AND RESEED ANY AREAS DISTURBED BY THEIR REMOVAL.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY

OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

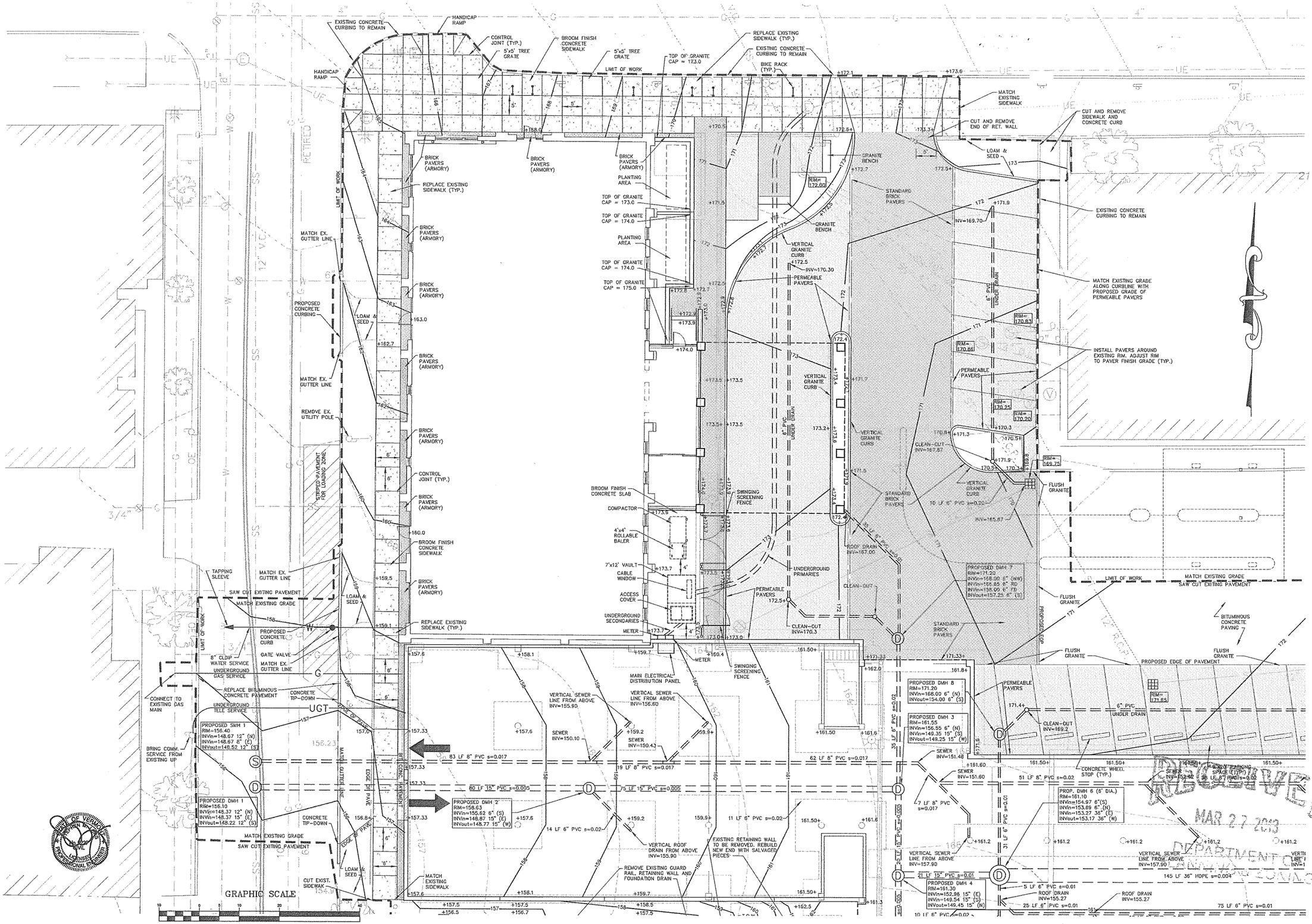
GRADING AND UTILITIES (KEY PLAN)

PROJECT: PROPOSED HOTEL
BURLINGTON, VT

STATE OF VERMONT
CIVIL
PROFESSIONAL ENGINEER

DATE:	02-13-13
SCALE:	1"=20'
DRAWN BY:	SML

C06
SHEET: 6 OF 20



REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY
03-12-13	ADDED BIKE RACKS AND TREE GRATES	SML

OPECHEE CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9900 FAX (603) 527-9191

GRADING AND UTILITIES PLAN (ARMORY)

PROPOSED HOTEL
BURLINGTON, VT

PROJECT

DATE:	02-13-13
SCALE:	1"=10'
DRAWN BY:	SML
SHEET:	C06.1 6.1 OF 20

PROPOSED DMH 1
RIM=156.40
INVin=148.67 12" (N)
INVin=148.67 8" (E)
INVout=148.52 12" (S)

PROPOSED DMH 1
RIM=156.10
INVin=148.37 12" (N)
INVin=148.37 15" (E)
INVout=148.22 12" (S)

PROPOSED DMH 2
RIM=158.63
INVin=155.62 6" (S)
INVin=148.87 15" (E)
INVout=148.77 15" (W)

PROPOSED DMH 7
RIM=171.20
INVin=168.00 6" (NW)
INVin=165.65 6" RD
INVin=158.00 6" FD
INVout=157.25 6" (S)

PROPOSED DMH 8
RIM=171.20
INVin=168.00 6" (N)
INVout=154.00 6" (S)

PROPOSED DMH 3
RIM=161.55
INVin=156.55 6" (N)
INVin=149.35 15" (S)
INVout=149.25 15" (W)

PROPOSED DMH 4
RIM=161.30
INVin=152.95 15" (E)
INVin=149.54 15" (S)
INVout=149.45 15" (N)

PROP. DMH 6 (6' DIA.)
RIM=161.10
INVin=154.97 6"(S)
INVin=153.69 6" (N)
INVin=153.27 36" (E)
INVout=153.17 36" (W)

PROPOSED DMH 5
RIM=161.00
INVin=154.02 6" (E)
INVin=149.69 15" (S)
INVout=149.64 15" (W)

PROPOSED CB 2
RIM=161.45
INVin=157.4 4" (W)
INVin=149.94 15" (E)
INVout=149.84 15" (N)

PROPOSED CB 1
RIM=162.1
INVin=155.8 6" (SW)
INVin=150.3 12" (E)
INVout=150.25 15" (W)

FLOOR DRAIN 5
RIM=160.70
INVin=157.48 6" (N)
INVin=154.42 6" (E)
INVout=154.32 6" (W)

FLOOR DRAIN 4
RIM=160.70
INVin=157.46 6" (N)
INVin=154.89 6" (E)
INVout=154.79 6" (W)

FLOOR DRAIN 3
RIM=160.70
INVin=157.46 6" (N)
INVin=155.36 6" (E)
INVout=155.26 6" (W)

GRAPHIC SCALE
(IN FEET)
1 inch = 10 ft.

REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY

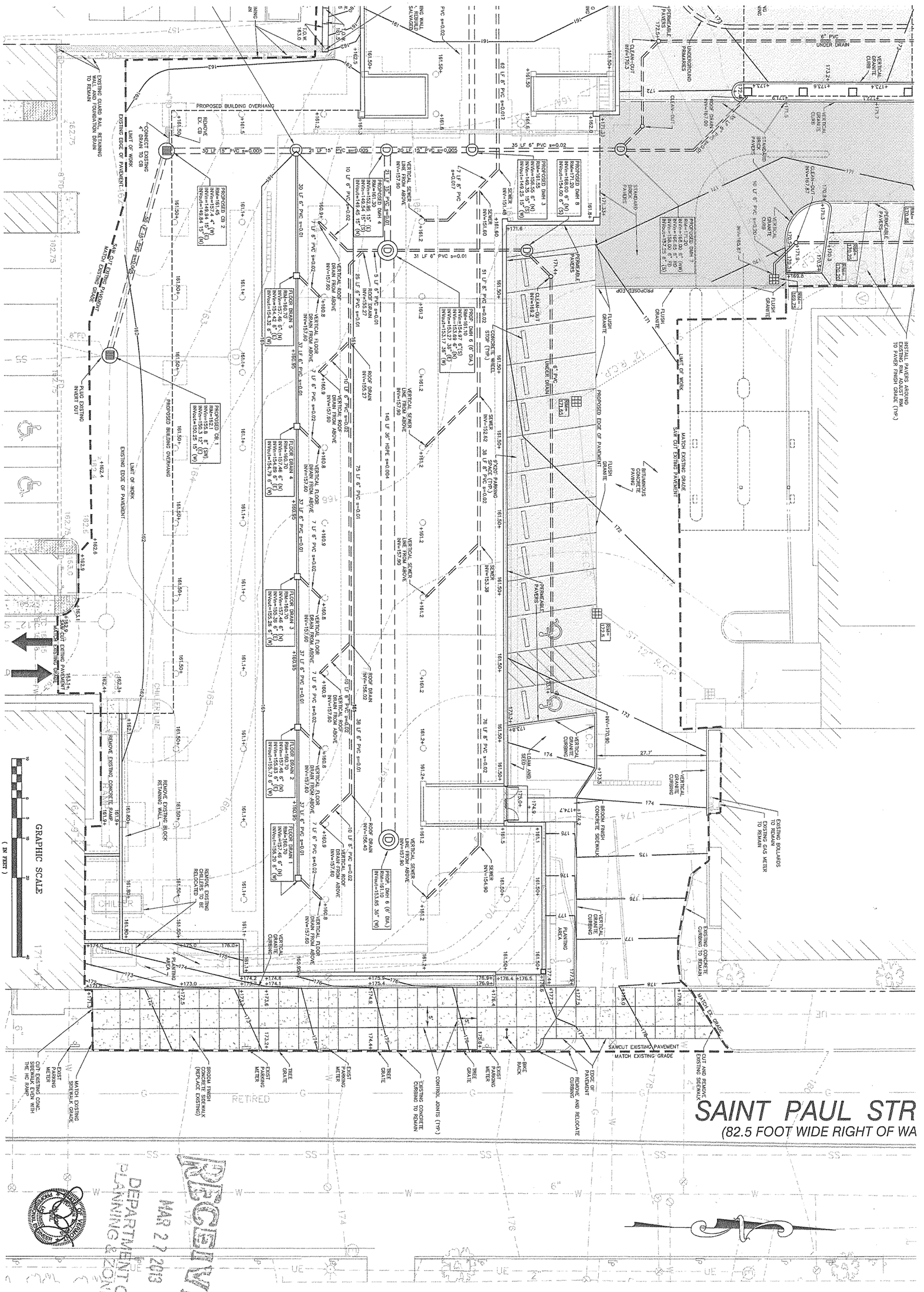
OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

GRADING AND UTILITIES PLAN (SOUTH)

PROJECT:
PROPOSED HOTEL
BURLINGTON, VT

DATE: 02-13-13
SCALE: 1"=10'
DRAWN BY: SML

C06.2
SHEET: 6.2 OF 20



SHEET:	C06.3
	6.3 OF 20
DATE:	02-13-13
SCALE:	1"=10'
DRAWN BY:	SML

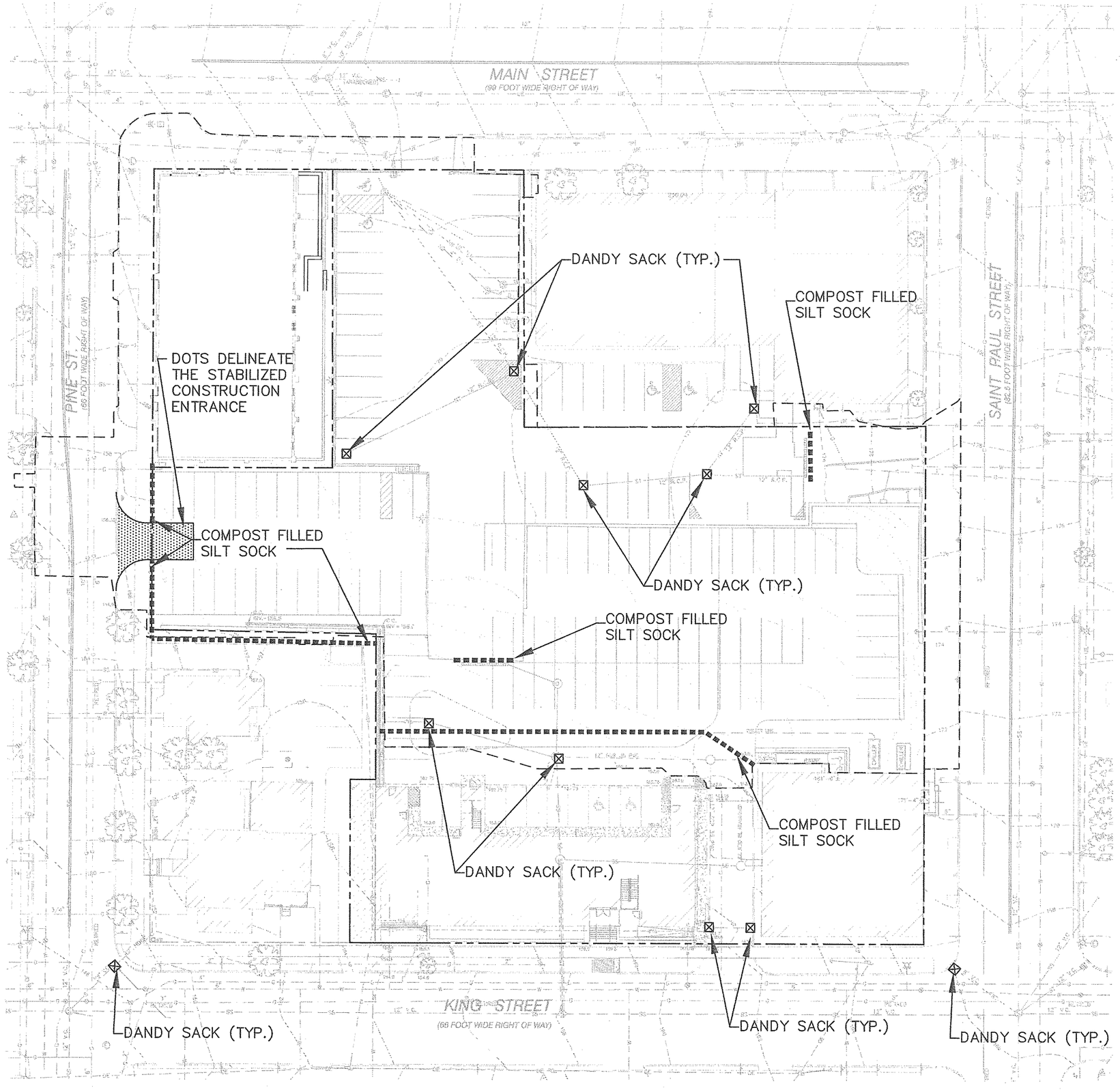
PROJECT:
PROPOSED HOTEL
BURLINGTON, VT

GRADING AND UTILITIES PLAN (SAINT PAUL)

OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603)527-9191

REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY
03-12-13	ADDED BIKE RACKS AND TREE GRATES	SML



EROSION AND SEDIMENT CONTROL

1. THE DEMOLITION EROSION AND SEDIMENT CONTROL PLAN DEPICTS THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL MEASURES THAT THE SITE SUBCONTRACTOR IS RESPONSIBLE FOR MAINTAINING DURING DEMOLITION IN SUCH A MANNER THAT:
   - SOIL EROSION IS KEPT TO A MINIMUM.
   - NO SEDIMENT LEAVES THE CONSTRUCTION SITE PROPERTY.
   - ALL POSSIBLE MEASURES ARE EMPLOYED TO PREVENT SEDIMENT FROM ENTERING DRAINAGE COURSES EVEN BEYOND THE DETAILS SHOWN ON THIS PLAN IF NECESSARY.
2. SOIL DISTURBING ACTIVITIES WILL INCLUDE MINIMAL CLEARING & GRUBBING, DEMOLITION, EXCAVATION FOR SEWER, STORM DRAINAGE, UNDERGROUND UTILITIES, BUILDING FOUNDATIONS, AND RETAINING WALLS.
3. AN AREA SHALL BE CONSIDERED STABLE IF ONE OR MORE OF THE FOLLOWING HAS OCCURRED:
   - BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
   - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED.
   - A MINIMUM OF 3" ON NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
   - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
4. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER ANY STORM EVENT WITH GREATER THAN 0.5 INCHES OF RAINFALL.
5. ALL NECESSARY REPAIRS TO EROSION CONTROL MEASURES MUST BE MADE AS SOON AS POSSIBLE.
6. ALL AREAS SHALL BE STABILIZED WITH EROSION CONTROL BLANKETS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
7. PROTECT AND STABILIZE ALL AREAS NOT SCHEDULED FOR EROSION PREVENTION OR STABILIZATION, BUT THAT SHOW SIGNS OF EROSION. NOTIFY ENGINEER OF ANY SIGNIFICANT EROSION PROBLEM.
8. INSTALL EROSION CONTROL BLANKETS WITHIN 7 DAYS IF ANY AREA WILL BE LEFT UNDISTURBED FOR MORE THAN 14 DAYS. SOD ANY AREA AS SOON AS POSSIBLE WHICH HAS BEEN LOAMED.

WINTER STABILIZATION

   - ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
   - ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
   - AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3-INCHES OF CRUSHED GRAVEL OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON, BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.
10. DANDY SACKS ARE SEDIMENT TRAP DEVICES TO BE USED WITH CATCH BASIN GRATES TO FILTER OUT ALL THE SEDIMENT-LADEN STORMWATER. THE SUSPENDED SOLIDS ARE ALLOWED TO SETTLE OUT OF THE SLOWED FLOW AND ARE CAPTURED BY THE SACK AFTER ENTERING THE CATCH BASIN INLET. FOLLOW THE DANDY SACK SEDIMENT TRAP MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS FOR INSTALLATION OF THE DANDY SACK. THE SACK SHALL BE EMPTIED WHEN THE CONTAINMENT AREA IS A ½ FULL. SEE THE DETAIL.
11. THE DEMOLITION SUBCONTRACTOR IS RESPONSIBLE FOR ALL SILTATION RESULTING FROM EROSION OR SEDIMENTATION FROM THE SITE TO SURROUNDING PROPERTIES OR WATER BODIES AS A RESULT OF THIS PROJECT.

GOOD HOUSEKEEPING

1. THE PAVED STREET INTO AND FROM THE SITE WILL BE SWEPT AS NECESSARY (COULD BE AS FREQUENT AS DAILY DURING HEAVY EARTH HAULING OPERATIONS) TO REMOVE ANY EXCESS MUD, DIRT, OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPAULIN.
2. ALL WASTE MATERIALS WILL BE COLLECTED AND STORED SECURELY IN A METAL DUMPSTER RENTED FROM A LOCAL SOLID WASTE MANAGEMENT COMPANY. THE DUMPSTER WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER WILL BE EMPTIED AS NECESSARY, AND THE TRASH WILL BE HAULED TO THE LOCAL DUMP OR TRANSFER CENTER. NO WASTE MATERIALS GENERATED BY CONSTRUCTION WILL BE BURIED ONSITE. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED IN THE OFFICE TRAILER AND THE SITE SUPERINTENDENT MANAGING THE DAY-TO-DAY SITE OPERATIONS WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.
3. ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL AND STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES AND THE SITE SUPERINTENDENT WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED
4. A LOCAL LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR WILL COLLECT ALL SANITARY WASTE FROM THE PORTABLE UNITS.
5. DO NOT PARK CONSTRUCTION VEHICLES ON CITY OWNED GREEN SPACE. ANY GREEN BELT DISTURBANCE WILL NEED TO BE PERMANENTLY STABILIZED WITH GRASS SEED AND EROSION CONTROL MATTING.
6. WATER FROM DEWATERING OF EXCAVATIONS DURING CONSTRUCTION TO BE PUMPED TO A SETTLING/FILTRATION TANK PRIOR TO BEING RELEASED TO THE CLOSED DRAINAGE SYSTEM.

REVISION SCHEDULE			
DATE	REVISION DESCRIPTION	BY	
04-16-12	ADDED 3 PARALLEL PARKING SPACES TO THE FARRELL PROPERTY.	SML	

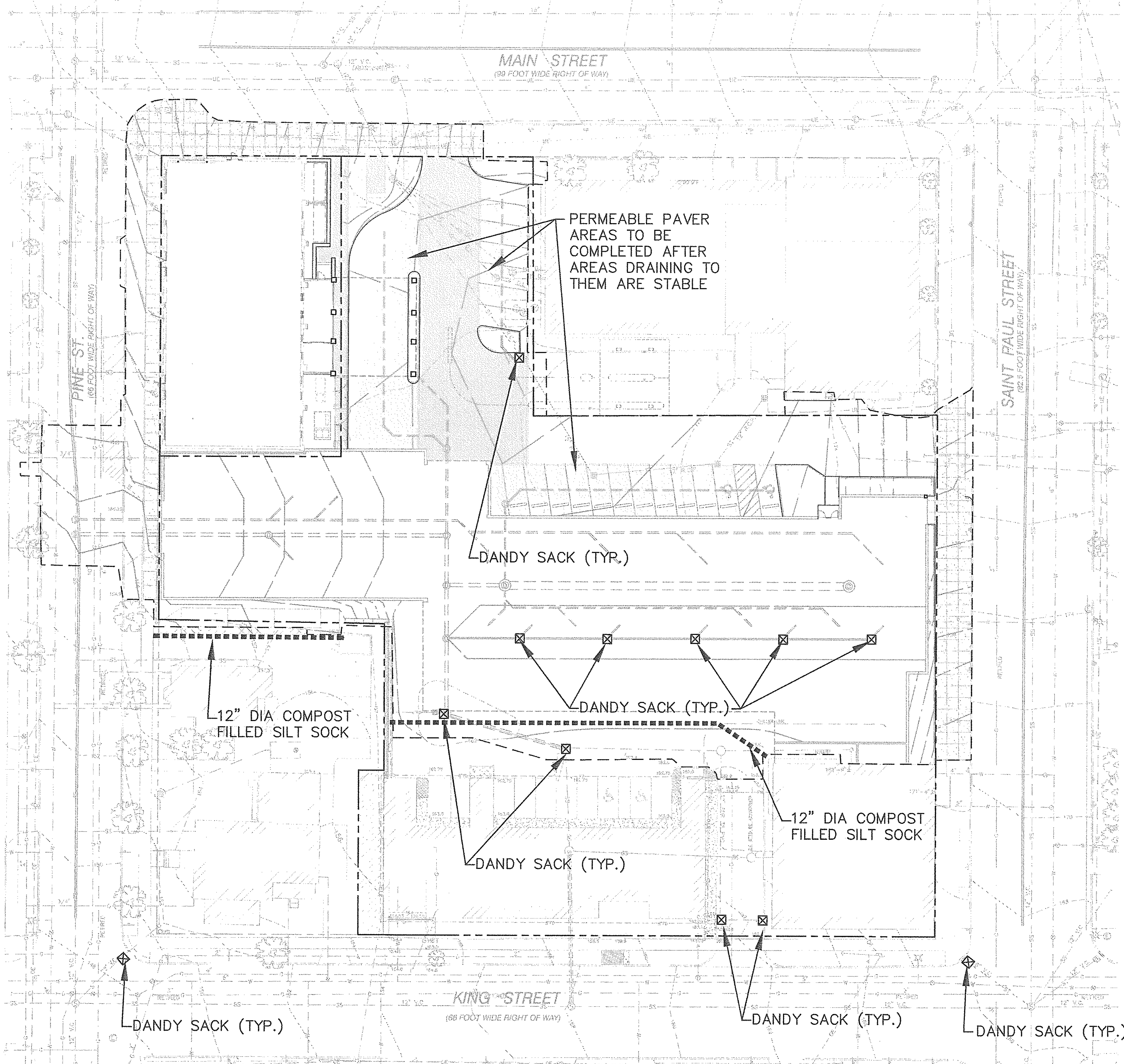
OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT, NH 03220
PHONE (603) 527-9999 FAX (603) 527-9191

EROSION AND SEDIMENT CONTROL (DEMOLITION)

PROJECT: PROPOSED HOTEL BURLINGTON, VT

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

DATE:	02-13-13
SCALE:	1"=20'
DRAWN BY:	SML
SHEET:	C07.1 7.1 OF 20



EROSION AND SEDIMENT CONTROL

1. THE EROSION AND SEDIMENT CONTROL PLAN DEPICTS THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL AND MEASURES THAT THE SITE SUBCONTRACTOR IS RESPONSIBLE FOR MAINTAINING AT THE CONSTRUCTION SITE IN SUCH A MANNER THAT:
   - SOIL EROSION IS KEPT TO A MINIMUM.
   - NO SEDIMENT LEAVES THE CONSTRUCTION SITE PROPERTY.
   - ALL POSSIBLE MEASURES ARE EMPLOYED TO PREVENT SEDIMENT FROM ENTERING DRAINAGE COURSES EVEN BEYOND THE DETAILS SHOWN ON THIS PLAN IF NECESSARY.
2. SOIL DISTURBING ACTIVITIES WILL INCLUDE MINIMAL CLEARING & GRUBBING, EXCAVATION FOR SEWER, STORM DRAINAGE, UNDERGROUND UTILITIES, BUILDING FOUNDATIONS, CUTS & FILLS, GRADING, AND PREPARATION FOR LANDSCAPING.
3. AN AREA SHALL BE CONSIDERED STABLE IF ONE OR THE FOLLOWING HAS OCCURRED:
   - BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
   - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED.
   - A MINIMUM OF 3" ON NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
   - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
4. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER ANY STORM EVENT WITH GREATER THAN 0.5 INCHES OF RAINFALL.
5. ALL NECESSARY REPAIRS TO EROSION CONTROL MEASURES MUST BE MADE AS SOON AS POSSIBLE.
6. ALL AREAS SHALL BE STABILIZED WITH EROSION CONTROL BLANKETS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
7. PROTECT AND STABILIZE ALL AREAS NOT SCHEDULED FOR EROSION PREVENTION OR STABILIZATION, BUT THAT SHOW SIGNS OF EROSION. NOTIFY ENGINEER OF ANY SIGNIFICANT EROSION PROBLEM.
8. INSTALL EROSION CONTROL BLANKETS WITHIN 7 DAYS IF ANY AREA WILL BE LEFT UNDISTURBED FOR MORE THAN 14 DAYS. SOD ANY AREA AS SOON AS POSSIBLE WHICH HAS BEEN LOAMED.
   - ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
   - ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
   - AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3-INCHES OF CRUSHED GRAVEL OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON, BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.
10. DANDY SACKS ARE SEDIMENT TRAP DEVICES TO BE USED WITH CATCH BASIN GRATES TO FILTER OUT ALL THE SEDIMENT-LADEN STORMWATER. THE SUSPENDED SOLIDS ARE ALLOWED TO SETTLE OUT OF THE SLOWED FLOW AND ARE CAPTURED BY THE SACK AFTER ENTERING THE CATCH BASIN INLET. FOLLOW THE DANDY SACK SEDIMENT TRAP MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS FOR INSTALLATION OF THE DANDY SACK. THE SACK SHALL BE EMPTIED WHEN THE CONTAINMENT AREA IS A ⅓ FULL. SEE THE DETAIL.
11. THE SITE SUBCONTRACTOR IS RESPONSIBLE FOR ALL SILTATION RESULTING FROM EROSION OR SEDIMENTATION FROM THE SITE TO SURROUNDING PROPERTIES OR WATER BODIES AS A RESULT OF THIS PROJECT.

GOOD HOUSEKEEPING

1. THE PAVED STREET INTO AND FROM THE SITE WILL BE SWEPT AS NECESSARY (COULD BE AS FREQUENT AS DAILY DURING HEAVY EARTH HAULING OPERATIONS) TO REMOVE ANY EXCESS MUD, DIRT, OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPAULIN.
2. ALL WASTE MATERIALS WILL BE COLLECTED AND STORED SECURELY IN A METAL DUMPSTER RENTED FROM A LOCAL SOLID WASTE MANAGEMENT COMPANY. THE DUMPSTER WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER WILL BE EMPTIED AS NECESSARY, AND THE TRASH WILL BE HAULED TO THE LOCAL DUMP OR TRANSFER CENTER. NO WASTE MATERIALS GENERATED BY CONSTRUCTION WILL BE BURIED ONSITE. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED IN THE OFFICE TRAILER AND THE SITE SUPERINTENDENT MANAGING THE DAY-TO-DAY SITE OPERATIONS WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.
3. ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL AND STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES AND THE SITE SUPERINTENDENT WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED
4. A LOCAL LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR WILL COLLECT ALL SANITARY WASTE FROM THE PORTABLE UNITS.
5. CONCRETE TRUCKS SHALL ONLY DISCHARGE WASHED OUT SURPLUS CONCRETE OR DRUM WASH WATER OFF-SITE OR INTO A PORTABLE "CONCRETE WASHOUT" UNIT THAT IS DISPOSED BY A LOCAL LICENSED WASTE MANAGEMENT CONTRACTOR.
5. DO NOT PARK CONSTRUCTION VEHICLES ON CITY OWNED GREEN SPACE. ANY GREEN BELT DISTURBANCE WILL NEED TO BE PERMANENTLY STABILIZED WITH GRASS SEED AND EROSION CONTROL MATTING.
6. WATER FROM DEWATERING OF EXCAVATIONS DURING CONSTRUCTION TO BE PUMPED TO A SETTLING/FILTRATION TANN PRIOR TO BEING RELEASED TO THE CLOSED DRAINAGE SYSTEM.

SPILL PREVENTION

1. THE FOLLOWING ARE MATERIAL MANAGEMENT PRACTICES THAT WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURES OF MATERIAL AND SUBSTANCES TO STORMWATER RUNOFF.
   - AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB
   - ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE
   - PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL
   - SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER
   - WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER
   - MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED
   - THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS
   - PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RE-SEALABLE
   - ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION
   - IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURERS' OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.
2. THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:
   - PETROLEUM PRODUCTS: ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
   - FERTILIZERS: FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER. STORAGE WILL BE IN A COVERED SHED OR TRAILER. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
   - PAINTS: ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
3. IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
   - MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
   - MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, ABSORBENT (I.E. CLAY KITTY LITTER), SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
   - ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
   - THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
   - SPILLS OF TOXIC OR HAZARDOUS MATERIAL SHALL BE REPORTED TO THE APPROPRIATED STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE OF THE AREA INVOLVED OR THE QUANTITY OF MATERIAL SPILLED.
   - THE SPILL PREVENTION PLAN SHALL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEANUP THE SPILL IF IT RECURS.
   - THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. ALL SITE SUB-CONTRACTORS ARE RESPONSIBLE FOR PROVIDING AT LEAST ONE SITE PERSONNEL APIECE WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IN THE OFFICE TRAILER ONSITE.

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

REVISION SCHEDULE		
DATE	REVISION DESCRIPTION	BY

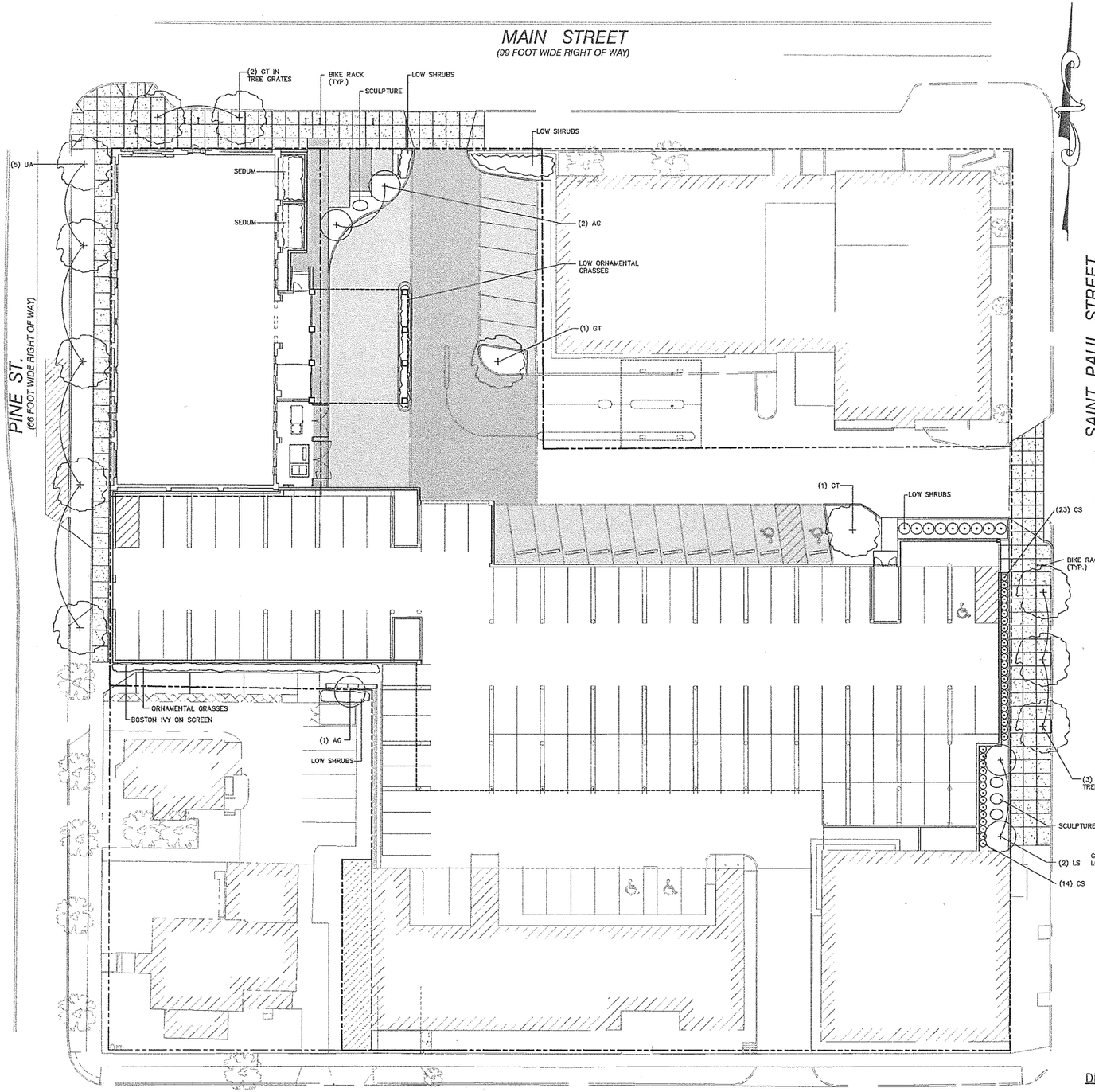
OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

EROSION AND SEDIMENT CONTROL (CONSTRUCTION)

PROJECT: PROPOSED HOTEL
BURLINGTON, VT

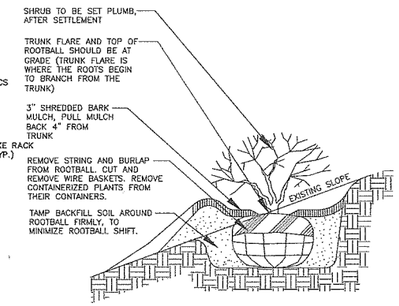
DATE: 02-13-13
SCALE: 1"=20'
DRAWN BY: SML

C07.2
SHEET: 7.2 OF 20



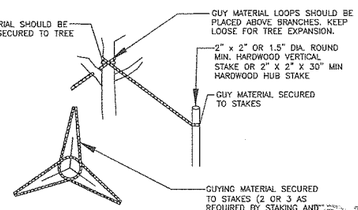
PLANT SCHEDULE

QTY.	KEY	SCIENTIFIC NAME	COMMON NAME	SIZE	COND.	SPACING
		DECIDUOUS TREES				
	AG	Amelanchier x grandiflora 'Robin Hill'	ROBIN HILL SERVICEBERRY	2 1/2"-3" cal.	B&B	Plant as shown
	GT	Gleditsia triacanthos inermis 'Skyline'	HONEYLOCUST	3 1/2"-4" cal.	B&B	Plant as shown
	LS	Liquidambar styraciflua 'Slender Silhouette'	COLUMNAR SWEET GUM	3"-3 1/2" cal.	B&B	Plant as shown
	UA	Ulmu samericana 'Princeton'	PRINCETON ELM	3 1/2"-4" cal.	B&B	Plant as shown
		DECIDUOUS AND FLOWERING SHRUBS				
	CS	Cornus sericea 'Artic Fire'	ARTIC FIRE TWIG DOGWOOD	3 Gal	Cont.	Plant 42" o.c.
	CL	Clethra alnifola 'Sugartina'	SUGARTINA SUMMERSWEET	3 Gal.	Cont.	Plant 24" o.c.
		PERENNIALS				
	LR	Liriope spicata	CREEPING LILYTURF	#1	Cont.	Plant 6" o.c.
	PA	Persicaria amplexicaulis 'Firetail'	FLEECEFLOWER	#1	Cont.	Plant 36" o.c.
		VINES				
	PT	Parthenocissus tricuspidata	BOSTON IVY	1 Gal.	Cont.	Plant 5' o.c.
		ORNAMENTAL GRASSES				
	CP	Carex pensylvanica	PENNSYLVANIA SEDGE	#1	Cont.	Plant 15" o.c.
	CK	Calamagrostis x acutiflora 'Karl Forester'	FEATHER REED GRASS	#1	Cont.	Plant 30" o.c.
	PR	Panicum virgatum 'Ruby Ribbons'	SWITCHGRASS	#2	Cont.	Plant 24" o.c.
	PN	Pennisetum alopecuroides 'Little Bunny'	FOUNTAIN GRASS	#1	Cont.	Plant 15" o.c.
		GREEN ROOF PLANTING				
	SA	Sedum album	SEDUM	#1	Cont.	Plant 6" o.c.
	SS	Sedum spurium 'Voodoo'	SEDUM	#1	Cont.	Plant 36" o.c.



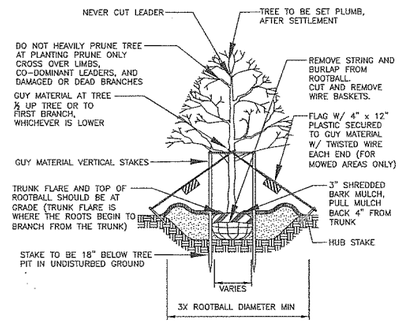
NOTE:
1. DO NOT HEAVILY PRUNE SHRUB AT PLANTING, PRUNE ONLY CROSSOVER LIMBS AND DAMAGED OR DEAD BRANCHES.
2. BACKFILL WITH LOAM, AMEND AS REQUIRED BY LANDSCAPE ARCHITECT.
3. SHRUBS & GROUNDCOVER PLANTED ADJACENT TO CITY SIDEWALKS NEED TO BE PLACED SO THE PLANTS, AT THEIR MATURE HEIGHT & WIDTH, WILL NOT ENCROACH INTO THE CITY'S SIDEWALK.

SHRUB PLANTING DETAIL
Not to Scale



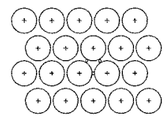
NOTE:
ONLY USE PLASTIC CHAINLOCK (LANDSCAPE QUALITY AND SUITABLE FOR GUYING TREES) OR EQUIVALENT GUYING MATERIAL.

DECIDUOUS TREE – GUYING & STAKING DETAIL
Not to Scale



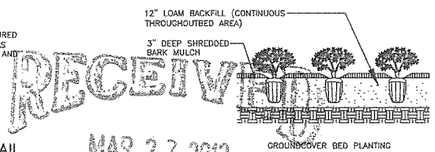
NOTES:
1. GUYING AND STAKING TO BE DETERMINED IN THE FIELD BY THE LANDSCAPE ARCHITECT. LOCAL FIELD CONDITIONS AS WELL AS PLANT CHARACTERISTICS WILL DETERMINE THE NECESSITY OF GUYING AND STAKING.
2. TYPICALLY ONLY TREES WITH A 3" OR GREATER CALIPER NEED TO BE STAKED. TREES WITH LESS THAN A 3" CALIPER NEED TO BE STAKED ONLY AS REQUIRED BY LANDSCAPE ARCHITECT.
3. ONLY WRAP TREE TRUNKS AS REQUIRED BY LANDSCAPE ARCHITECT.
4. TREE SHALL BE SET PLUMB, AFTER SETTLEMENT.
5. LOAM FOR BACKFILLING SHALL BE AMENDED AS REQUIRED BY LANDSCAPE ARCHITECT.
6. CITY TREES PLANTED ON PRIVATE PROPERTY, ADJACENT TO A PUBLIC RIGHT-OF-WAY, NEED TO BE PLANTED A MINIMUM OF 5 FEET FROM THE EDGE OF THE CITY SIDEWALK.

DECIDUOUS TREE PLANTING DETAIL
Not to Scale



TYPICAL BED PLANT SPACING

NOTE:
D = DIMENSION OF PLANT SPACING (SHRUB OR GROUNDCOVER AS INDICATED ON PLANS)



GROUNDCOVER BED PLANTING

GROUNDCOVER PLANTING DETAIL
Not to Scale

GRAPHIC SCALE
20 0 10 20 40 60
(IN FEET)
1 inch = 20 ft.

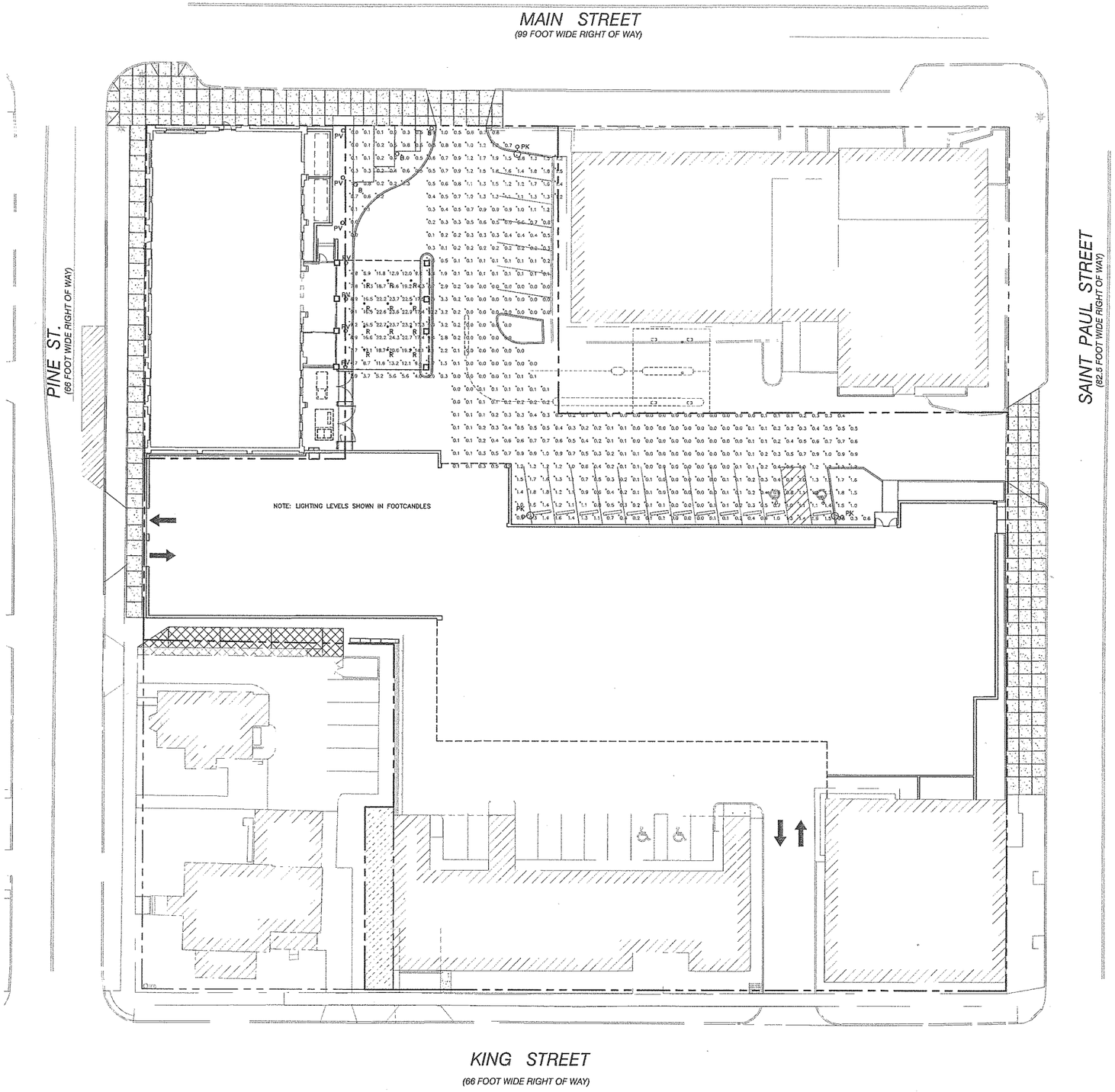
REVISION SCHEDULE		
DATE	REVISION DESCRIPTION	BY
03-12-13	ADDED TREES IN GRATES AND SCULPTURES	SML

OPECHEE CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

LANDSCAPING PLAN

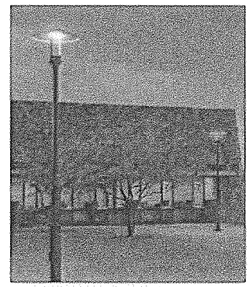
PROJECT: PROPOSED HOTEL BURLINGTON, VT

DATE:	02-13-13
SCALE:	1"=20'
DRAWN BY:	SML
SHEET:	C08 8 OF 20

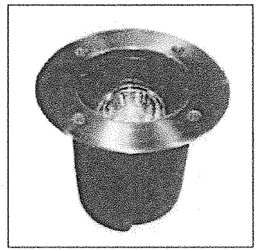


LIGHTING SCHEDULE

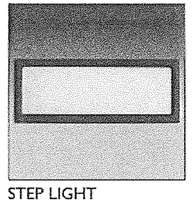
LABEL	SYM.	QTY.	ARRANGEMENT	LAMP	TYPE	MTG. HT.	DESCRIPTION	MANUFACTURER
PK		3	SINGLE	LED	PARKING LOT LIGHT	20'	SAC2L 1 LG3500 R3 35 25 SV 120 DS HS	SELUX
B		8	SINGLE	LED	BOLLARD LIGHT	40"	OVB 6LEDW 120 PH NP	LUMEC
D		3	SINGLE	LED	TREE LIGHT SCULPTURE LIGHT	VARIES	8UL_ID4 M ID4 L W S H	PHILLIPS
PV		15	SINGLE	LED	LED PAVER LIGHT	FLUSH	IG12 LED	LUMENTON
W		6	SINGLE	LED	STEP LIGHT IN WALL	6"	SP200 LED 120 NA MM	ALLSCAPE
R		9	SINGLE	LED	RECESSED CAN FIXTURE	13'-6"	OM6LED39-R6LED35KWDCS	OMEGA



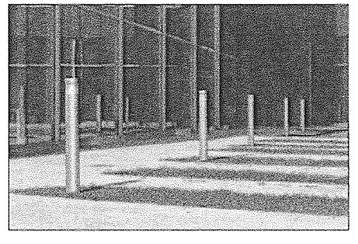
PARKING LOT LIGHT



PAVER LIGHT



STEP LIGHT



BOLLARD LIGHT

GRAPHIC SCALE

20 0 10 20 40 60

(IN FEET)
1 inch = 20 ft.

RECEIVED
MAR 27 2013
DEPARTMENT OF PLANNING & ZONING

REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY

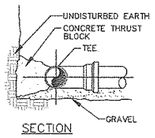
OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

LIGHTING PLAN

PROJECT:
PROPOSED HOTEL
BURLINGTON, VT

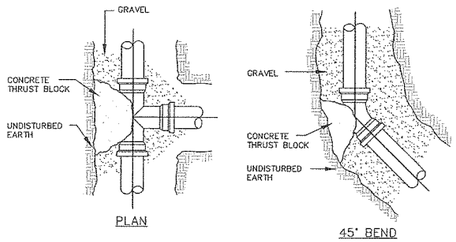
DATE: 02-13-13
SCALE: 1"=20'
DRAWN BY: SML

C09
SHEET: 9 OF 20



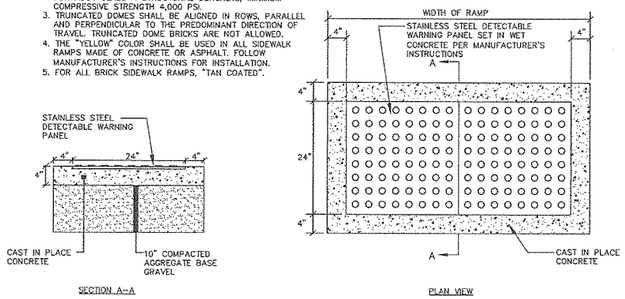
SECTION

CONCRETE THRUST BLOCK SIZE REQUIREMENTS				
		SQ. FT. OF BEARING ON UNDISTURBED SOIL		
FITTINGS		90° BENDS	45° BENDS	TEES AND PLUGS
PIPE SIZE	6"	4.0	2.0	3.0
	8"	8.0	4.0	6.0
	12"	15	10	10

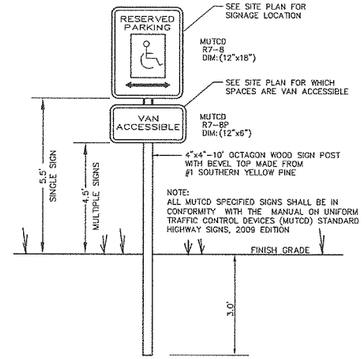


TEE AND BEND DETAIL
NOT TO SCALE

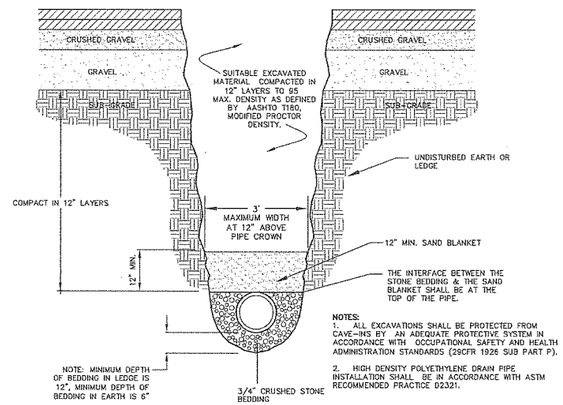
NOTES:
1. STAINLESS STEEL TRUNCATED DOME PANELS SHALL BE AS MANUFACTURED BY ADVANTAGE TACTILE SYSTEMS, INC. (WWW.ADVANTAGETACTILE.COM), OR APPROVED EQUAL.
2. CAST IN PLACE CONCRETE SHALL MEET SPECIFICATIONS FOR MDOT CLASS A STRUCTURAL CONCRETE, MINIMUM COMPRESSIVE STRENGTH 4,000 PSI.
3. TRUNCATED DOMES SHALL BE ALIGNED IN ROWS, PARALLEL AND PERPENDICULAR TO THE PREDOMINANT DIRECTION OF TRAVEL. TRUNCATED DOME BRICKS ARE NOT ALLOWED.
4. THE "YELLOW" COLOR SHALL BE USED IN ALL SIDEWALK RAMPS MADE OF CONCRETE OR ASPHALT. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.
5. FOR ALL BRICK SIDEWALK RAMPS, "TAN COATED".



SIDEWALK RAMP DETECTABLE WARNING PANEL
NOT TO SCALE

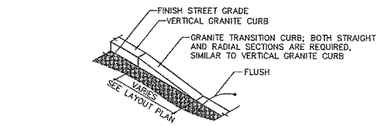


POLE MOUNTED SIGNS
Not to Scale

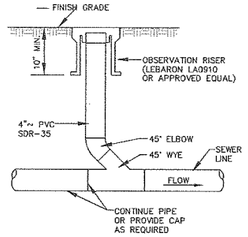


NOTES:
1. ALL EXCAVATIONS SHALL BE PROTECTED FROM CAVE-INS BY AN ADEQUATE PROTECTIVE SYSTEM IN ACCORDANCE WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARDS (29CFR 1926 SUB PART P).
2. HIGH DENSITY POLYETHYLENE DRAIN PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM RECOMMENDED PRACTICE D2321.

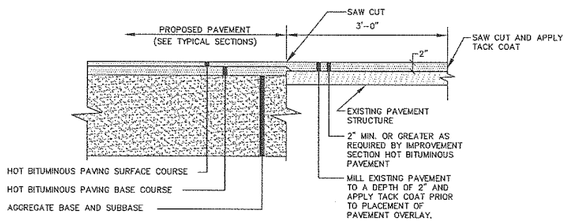
DRAIN PIPE INSTALLATION
Not to Scale



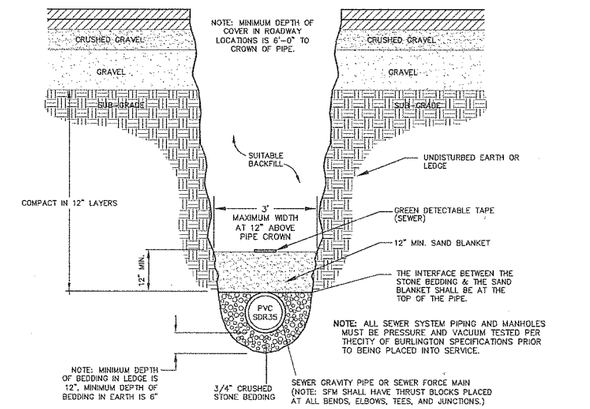
TRANSITION CURB
NOT TO SCALE



SEWER CLEAN-OUT
NOT TO SCALE

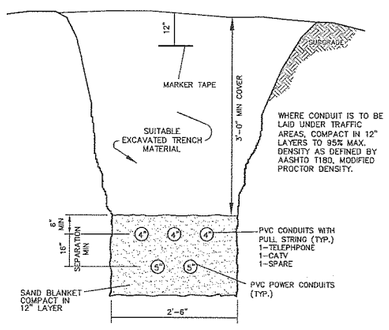


PAVEMENT SAW CUT DETAIL
NOT TO SCALE



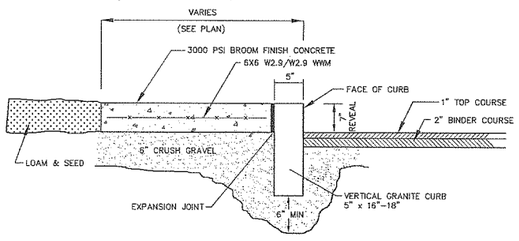
NOTE: ALL SEWER SYSTEM PIPING AND MANHOLES MUST BE PRESSURE AND VACUUM TESTED PER THECITY OF BURLINGTON SPECIFICATIONS PRIOR TO BEING PLACED INTO SERVICE.

SEWER TRENCH DETAIL
Not To Scale

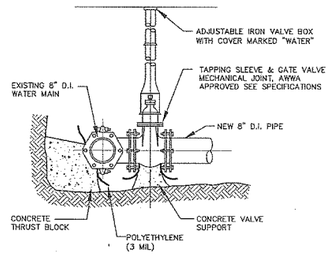


NOTE: ALL CONDUIT IS TO BE GRAY NESC SCHEDULE 40 PVC.

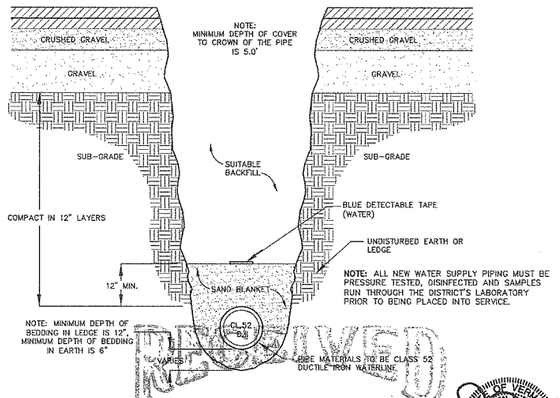
TYPICAL UNDERGROUND UTILITY TRENCH DETAIL
Not to Scale



SIDEWALK & VERTICAL GRANITE CURB DETAIL
Not to Scale

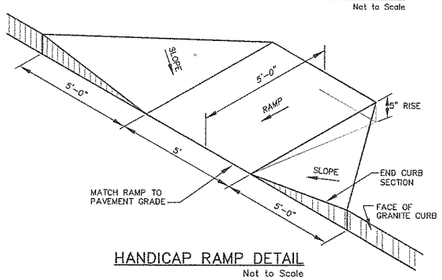


TAPPING SLEEVE AND VALVE
Not To Scale

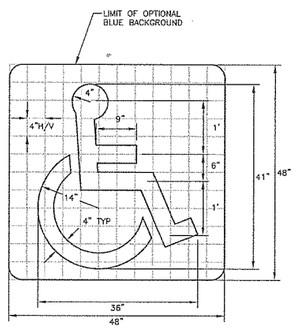


NOTE: ALL NEW WATER SUPPLY PIPING MUST BE PRESSURE TESTED, DISINFECTED AND SAMPLES RUN THROUGH THE DISTRICT'S LABORATORY PRIOR TO BEING PLACED INTO SERVICE.

WATER PIPE INSTALLATION DETAIL
Not To Scale

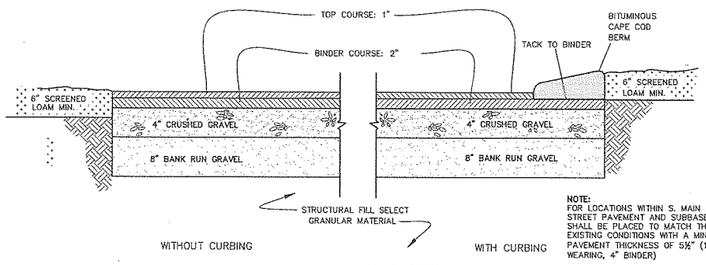


HANDICAP RAMP DETAIL
Not to Scale



SYMBOL SHALL BE WHITE WITH AN OPTIONAL BLUE BACKGROUND

HANDICAP PARKING SPACE PAVEMENT MARKING
Not to Scale



NOTE:
FOR LOCATIONS WITHIN S. MAIN STREET PAVEMENT AND SUBBASE SHALL BE PLACED TO MATCH THE EXISTING CONDITIONS WITH A MINIMUM PAVEMENT THICKNESS OF 5½" (1½" WEARING, 4" BINDER)

PAVEMENT SECTIONS
Not to Scale

REVISION SCHEDULE

DESCRIPTION	DATE	BY

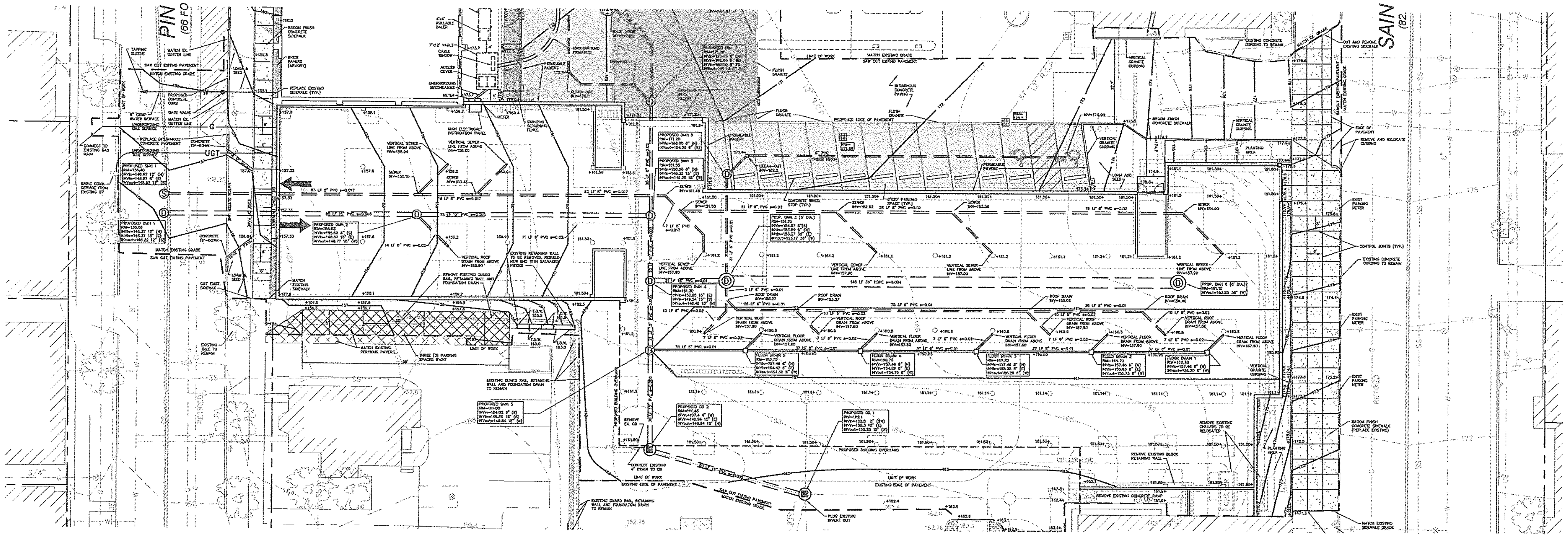
OPECHEE CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603)527-9090 FAX (603)527-9191

CONSTRUCTION DETAILS

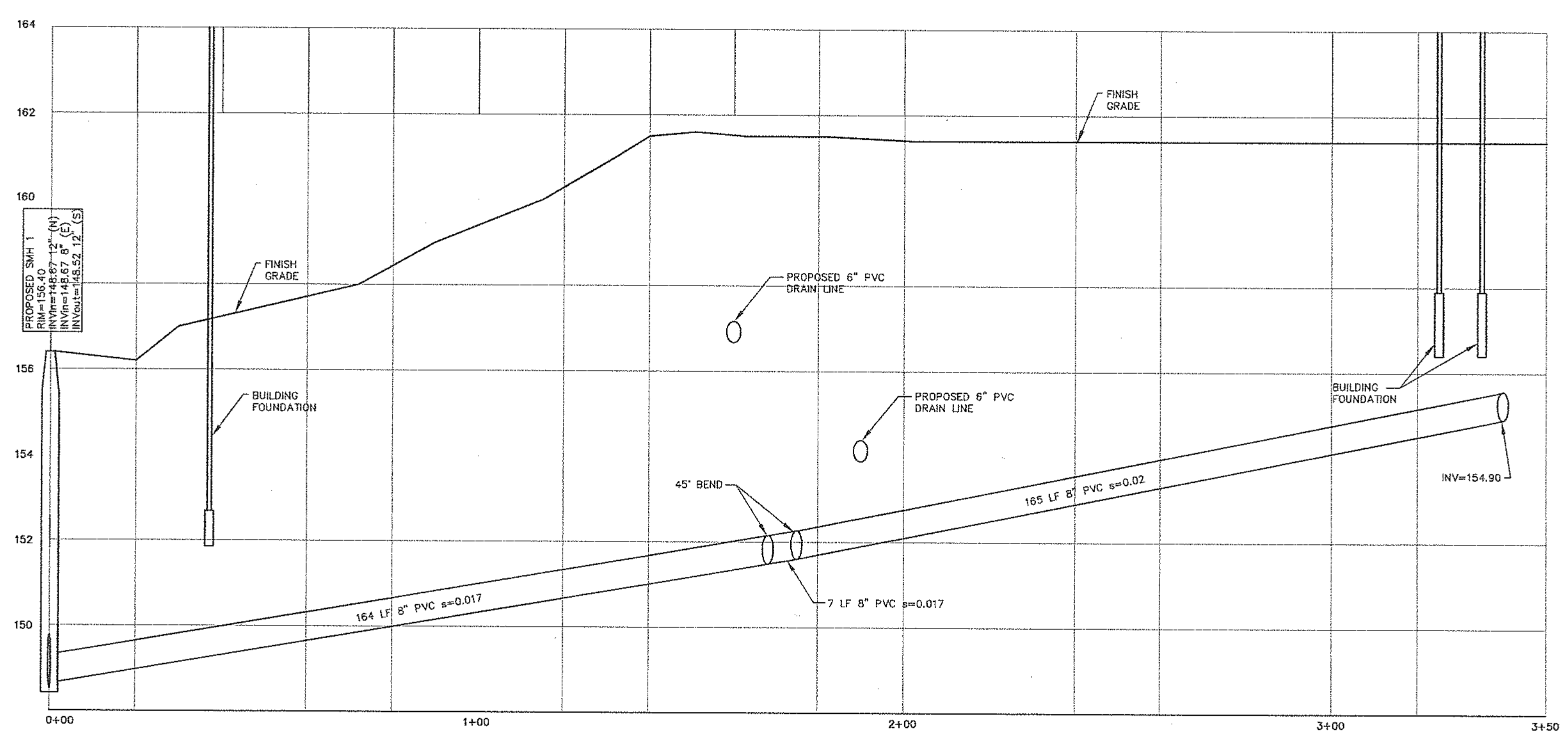
PROJECT: PROPOSED HOTEL
BURLINGTON, VT

DATE: 02-13-13
SCALE: AS SHOWN
DRAWN BY: SML

C10
SHEET: 10 OF 20



SEWER PLAN
SCALE: 1"=20'



SEWER PROFILE
VERTICAL SCALE: 1"=2'
HORIZONTAL SCALE: 1"=20'

REVISION SCHEDULE		
DATE	REVISION DESCRIPTION	BY

OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

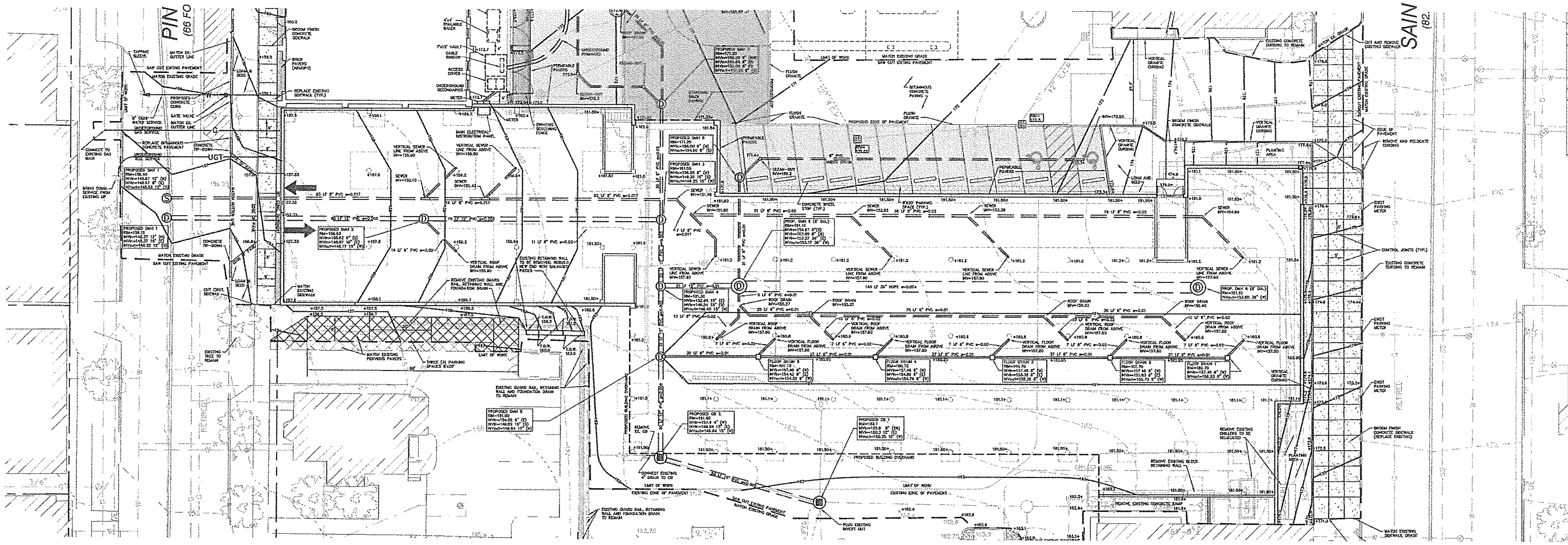
SEWER PROFILE

PROJECT:
PROPOSED HOTEL
BURLINGTON, VT

DATE: 02-13-13
SCALE: AS SHOWN
DRAWN BY: SML

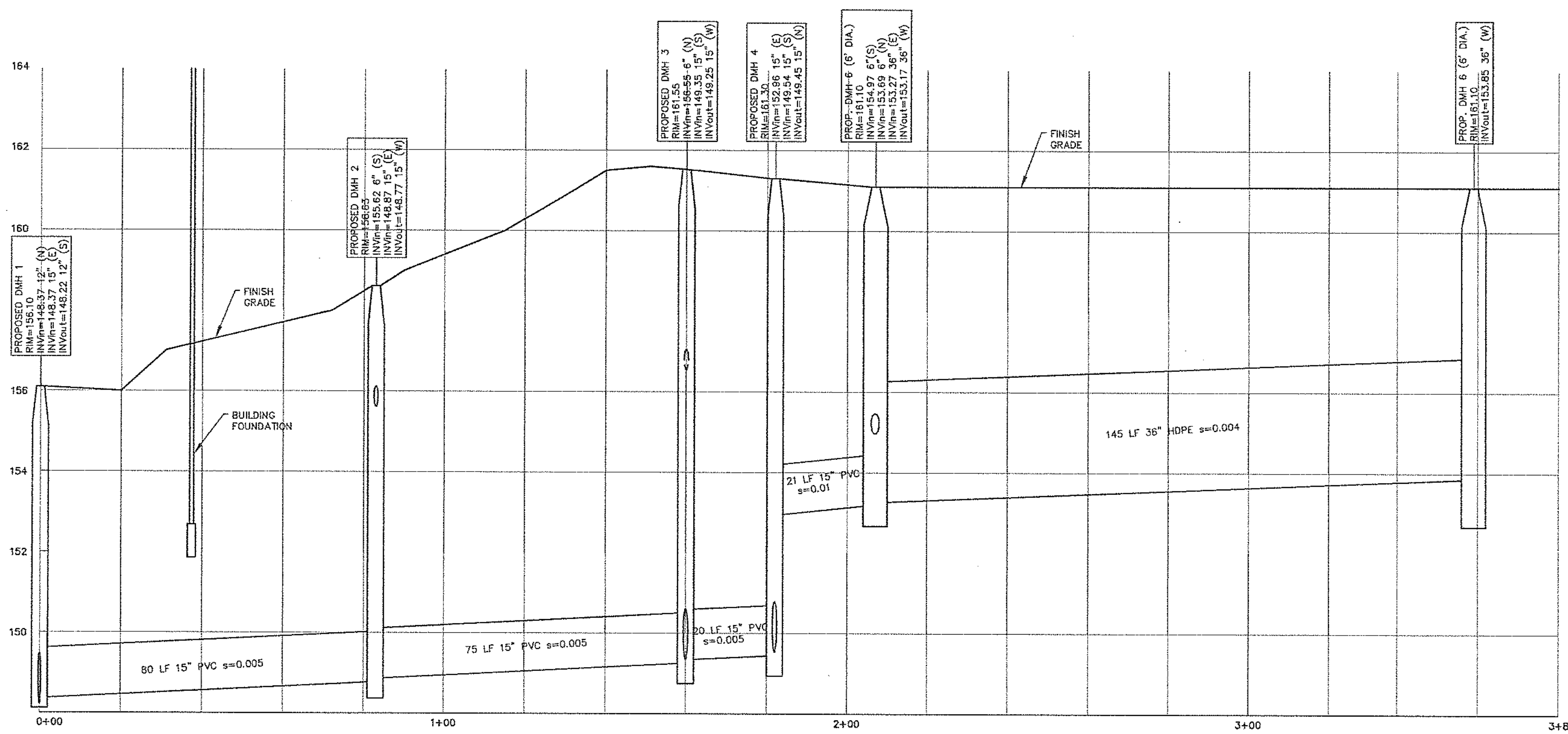
C10.1

SHEET: 10.1 OF 20



DRAIN PLAN

SCALE: 1"=20'



DRAIN PROFILE

VERTICAL SCALE: 1"=2'
HORIZONTAL SCALE: 1"=20'

DRAIN PROFILE

VERTICAL SCALE: 1"=2'
HORIZONTAL SCALE: 1"=20'

REVISION SCHEDULE		
DATE	REVISION DESCRIPTION	BY

OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

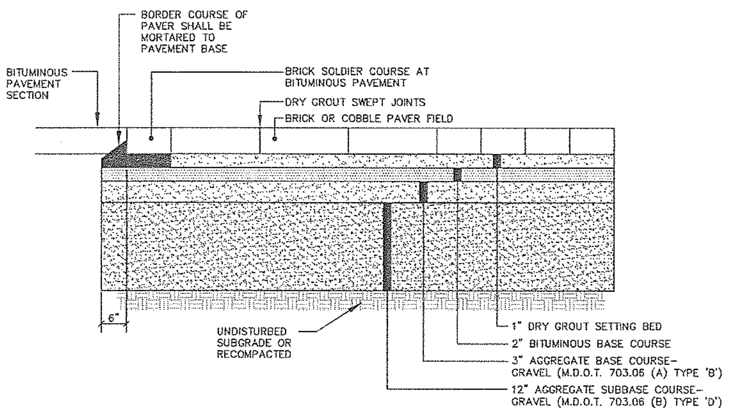
DRAIN PROFILES

PROJECT: PROPOSED HOTEL
BURLINGTON, VT

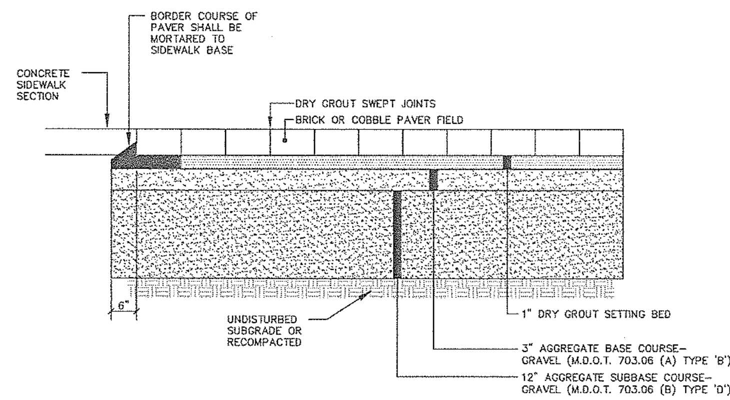
DATE:	02-13-13
SCALE:	AS SHOWN
DRAWN BY:	SML

C10.2

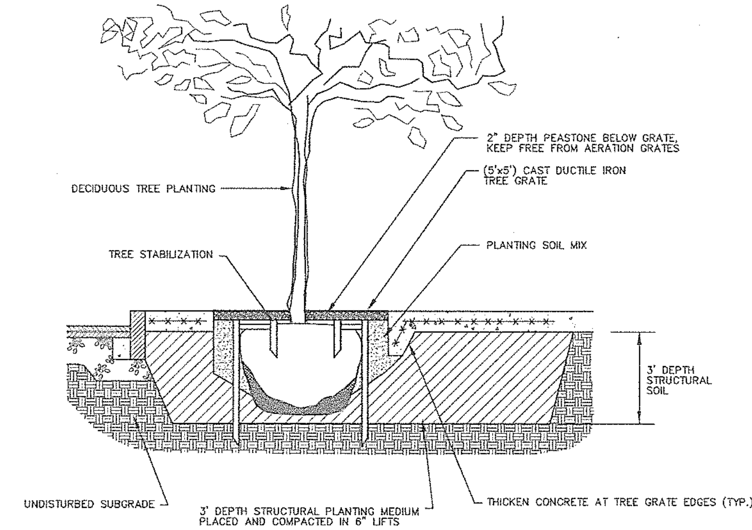
SHEET: 10.2 OF 20



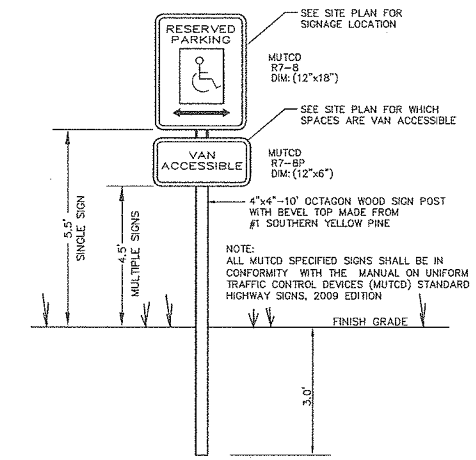
BRICK PAVER DRIVEWAY
NOT TO SCALE



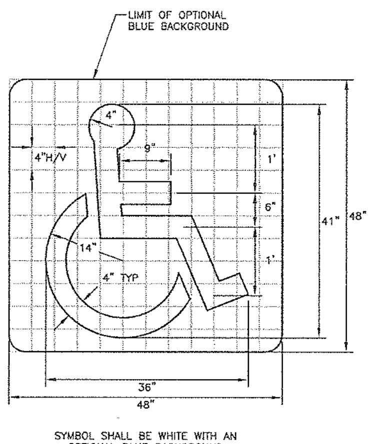
BRICK PAVER ARMORY
NOT TO SCALE



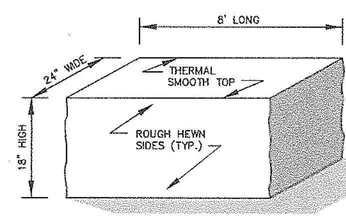
SIDEWALK TREE PLANTING DETAIL
Not To Scale



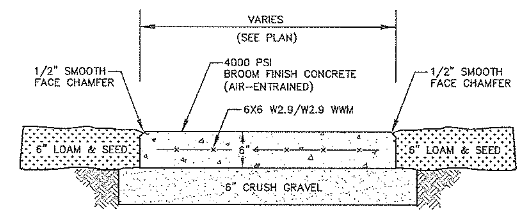
POLE MOUNTED SIGNS
Not to Scale



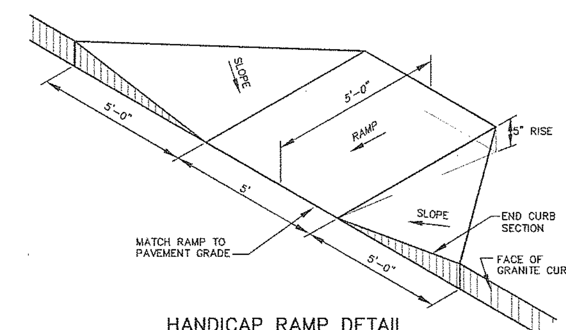
HANDICAP PARKING SPACE PAVEMENT MARKING
Not to Scale



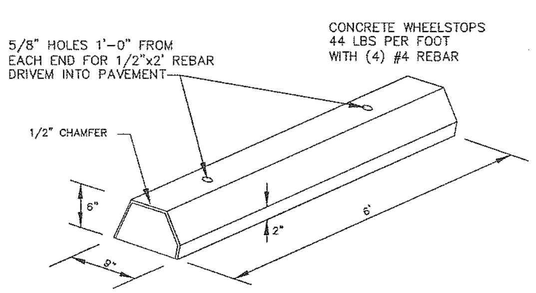
GRANITE BENCH DETAIL
NOT TO SCALE



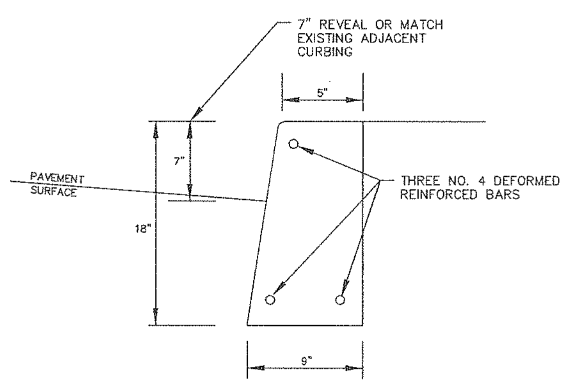
BROOM FINISH CONCRETE SIDEWALK SECTION
Not to Scale



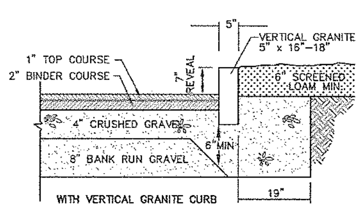
HANDICAP RAMP DETAIL
Not to Scale



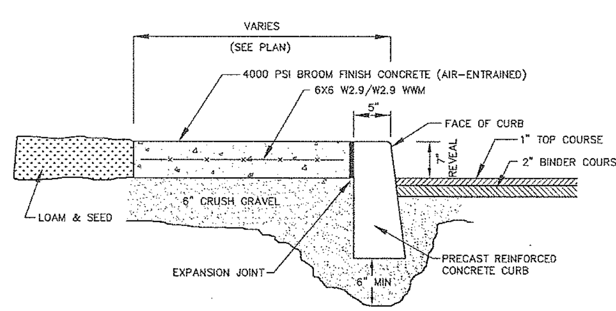
CONCRETE WHEELSTOP
NOT TO SCALE



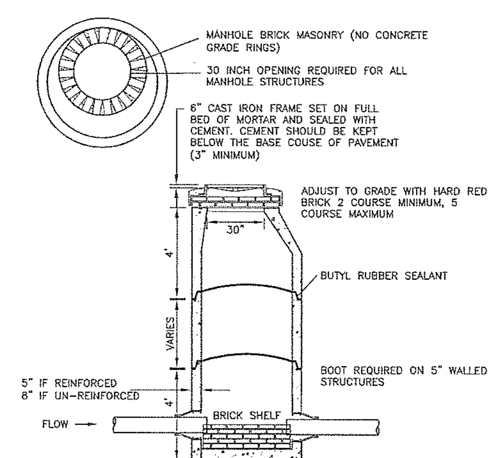
PRECAST REINFORCED CONCRETE CURB
NOT TO SCALE



PAVEMENT SECTIONS
Not To Scale

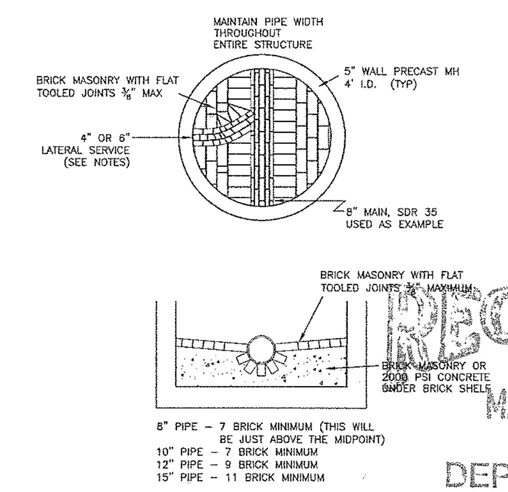


SIDEWALK & CONCRETE CURB DETAIL
Not to Scale



NOTES:
1. CONCRETE: 4,000 PSI AFTER 28 DAYS
2. H-20 LOADING REQUIRED
3. ON INSIDE OF STRUCTURE, PRE-CAST JOINTS AND LADDER RUNG HOLES TO BE SEALED WITH PORTLAND CEMENT
4. LIFT HOLES ARE TO BE SEALED WITH PORTLAND CEMENT FLUSH TO THE OUTSIDE STRUCTURE WALL PRIOR TO BACKFILLING
5. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF INSIDE SURFACE BETWEEN HOLES. NO MORE THAN 75% OF A HORIZONTAL CROSS-SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS

SEWER MANHOLE
Not to Scale



8" PIPE – 7 BRICK MINIMUM (THIS WILL BE JUST ABOVE THE MIDPOINT)
10" PIPE – 7 BRICK MINIMUM
12" PIPE – 9 BRICK MINIMUM
15" PIPE – 11 BRICK MINIMUM

NOTES:
1. FOR MAINS 8" TO 15", CONSTRUCT INVERT THROUGH LOWER HALF OF PIPE (MINIMUM) (8" PVC SHOWN AS AN EXAMPLE)
2. FOR MAINS GREATER THAN 15", CONSTRUCT INVERT TO TOP OF PIPE
3. MAINTAIN TROUGH WIDTH THROUGH STRUCTURE
4. TYPICAL BRICK, ASTM DESIGNATION: C 321-93
5. SERVICE CONNECTIONS SHOULD BE PER THE "SEWER SERVICE CONNECTION / INSIDE DROP MANHOLE" DETAIL. WHERE GRADES PROHIBIT SUCH A CONNECTION THE CONNECTION SHOULD BE AS SHOWN WITH THE SERVICE INVERT 2" ABOVE THE INVERT OF THE MAIN WHERE IT ENTERS THE MANHOLE.

SEWER MANHOLE BRICK SHELF
Not to Scale

STATE OF VERMONT LICENSED PROFESSIONAL ENGINEER CIVIL

REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY

OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

CONSTRUCTION DETAILS

PROJECT: PROPOSED HOTEL
BURLINGTON, VT

DATE: 02-13-13
SCALE: AS SHOWN
DRAWN BY: SML

C10.3

SHEET: 10.3 OF 20

SANITARY SEWER SYSTEMS

PART 1 –GENERAL

1.01 SUMMARY
A. Section includes:
1. Gravity Sewer Pipe
2. Manhole Structures and Appurtenances
3. Pressure Sewer Pipe

1.02 SUBMITTALS
A. Product Data: Submit published data from manufacturers of products and accessories specified, indicating compliance with requirements.

1.03 QUALITY ASSURANCE
A. All sanitary sewer materials and construction of same shall be as shown on the Contract Plans and shall meet the requirements of the State of Vermont Agency of Natural Resources (Department of Environmental Conservation) and the Public Works Standards and Specifications of the local municipality.

PART 2 –PRODUCTS

2.01 GENERAL
A. Furnish ells, tees, reducing tees, wyes, couplings, increasers, crosses, transitions and end caps of the same type and class of material as the conduit, or of material having equal or superior physical and chemical properties as acceptable to the Engineer to provide a complete and operable system.

2.02 PVC GRAVITY SANITARY SEWER PIPE
A. PVC sewer pipe shall conform in all respects to the latest revision of ASTM Specifications D–3034 or F679, Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings, SDR 35 pipe. All pipe and fittings shall be clearly marked as follows:
–Manufacturers Name and Trademark
Nominal
Pipe Size (as shown on plans)
–Material Designation 12454–C PVC
–Legend "Type PSM SDR 35 PVC Sewer Pipe" or "PS 46 PVC Sewer Pipe"
–Designation ASTM D–3034 or F679
B. Joints shall be push–on type using elastomeric gaskets and shall conform to ASTM D–3212. The gaskets shall be factory installed. The pipe shall be furnished in nominal 13 foot lengths. Sufficient numbers of short lengths and full machine fittings shall be provided for use at manholes and connections. All connections will require the use of manufactured fittings. Field fabricated, saddle–type connections will not be considered acceptable.

2.03 UNDERSLAB GRAVITY SANITARY SEWER PIPE
A. All underslab sewer piping is to comply with Burlington Public Works specifications.

2.04 PVC PRESSURE SEWER PIPE NOT APPLICABLE
A. PVC pipe shall conform in all respects to the latest revisions of ASTM Specifications D–2241. All pipe and fittings shall be SDR 26 clearly marked as follows:
–Manufacturer's Name and Trademark
–Nominal Pipe Size (as shown on plans)
–Material Designation 12454–A PVC ASTM D–1784
B. Joints shall be push–on type using elastomeric gaskets factory installed conforming to ASTM Specification D–3212.

2.05 MANHOLES
A. Manholes shall be sized as indicated on the plan and shall be precast concrete with a monolithic base and shall conform to the latest version of ASTM Specification C478. compressive strength of 3,000 psi at 28 days. Inverts for sewer manholes shall be as shown on the plans and details and shall be constructed with concrete or brick, as per the local municipality's standards. Inverts shall have the exact shape of the sewer to which they are connected, and any change in size of direction shall be gradual and even.
C. All manholes are to be provided with copolymer polypropylene plastic steps with steel reinforcement 12 inches on center.
D. All manholes shall be provided with rough, gray, cast iron manhole frames and covers. All iron castings shall be thoroughly cleaned and then coated with hot tar before being delivered. Frames and covers shall be LeBaron LC 265, or an approved equal, and have a minimum weight of 400 pounds.
E. Precast risers and bases for manholes shall conform to ASTM Specification C–478. The pipe opening in the precast manhole system shall have a cast–in–place flexible gasket or an equivalent system for pipe installation as approved by the Engineer. Joints between manhole risers shall be 1" minimum width flexible gasket or approved equals.

2.06 CLEANOUTS
A. Clean outs for gravity sewers and force mains shall be provided at locations indicated on the plans or as directed by the Engineer. Cleanout frames and covers shall be of tough gray cast iron. Castings shall he true to pattern and free from flaws. The bearing surface of clean out frames and covers against each other shall be machined to give continuous contact throughout their circumference.

PART 3 EXECUTION

3.01 GENERAL
A. Care shall be exercised by the Contractor to avoid disrupting the operation of existing sanitary sewer facilities without prior written approval of the Engineer.
B. When existing underground utilities not scheduled for removal or abandonment are encountered in the excavation, they shall be adequately supported ;and protected from damage. Any damage to utilities shall be repaired promptly at no additional cost to the Owner.

3.02 BEDDING FOR PIPE
A. The bedding material shall be shaped to fit the pipe for a depth of not less than 10 percent of its total height and shall have recesses to receive the bell.

3.03 LAYING PIPE
A. In general, sewer pipe shall be installed in accordance with the latest detailed instructions of the manufacturer.
B. The laying shall begin at the outlet end and the lower segment of the pipe shall be in contact with the shaped bedding throughout its full length. Bell or grooved ends of rigid pipes and the circumferential laps of flexible pipe shall be placed facing upstream.
C. All pipe and fittings shall be carefully examined for defects and no pipe or fittings shall be laid which are known to be defective. If any defective piece is discovered after laying, it shall be removed and I replaced at the Contractor's expense. All pipes and fittings shall be cleaned before they are laid and shall be kept clean until accepted in the completed work.
D. The pipe shall be laid to conform to the lines and grades indicated on the drawings or given by the Engineer. Each pipe shall be so laid as to form a clamp joint with the next adjoining pipe and to bring the inverts continuously to the required grade.
E. The Contractor shall take all necessary precautions to prevent flotation of the pipe in the trench.
F. When pipe laying is not in progress, the open ends of the pipe shall be closed with temporary watertight plugs. If water is in the trench when work is resumed, the plug shall not be removed until all danger of water entering the pipe is eliminated.
G. For force mains, concrete reaction blocking shall be provided as detailed at all bends deflecting 22112 degrees or more. At the Contractor's option, retainer glands may be used at bends in lieu of concrete blocking. Retainer glands shall also be provided at all joints within three pipe lengths each side of the bends.

3.04 GRAVITY SEWER PIPE TESTING
A. The Contractor shall provide all necessary equipment and instrumentation required for proper completion of the flushing and testing. Quality of water, test procedures, and method of disposal of water shall be approved by the Engineer. Prior to testing, flush with water to remove construction debris.
B. All tests shall be made in the presence of the Engineer. Preliminary tests made by the Contractor without being observed by the Engineer will not be accepted. The Engineer will be notified at least eight hours before any work is to be inspected or tested.
C. The maximum sewer length to be tested at one time shall be that length between any two manholes.
D. Air Testing Low pressure air testing shall be conducted in accordance with the following procedures:
1. Each end of the test section shall be plugged, capped and braced. Necessary safety precautions shall be taken to prevent blowouts and possible injury.
2. An air hose shall be connected to a tapped plug used for an air inlet. The hose will be connected to the air control equipment, which shall include valves and pressure gauges. These shall allow air to enter the sewer test line, monitor air pressure in the sewer, shut off air, and provide pressure reduction and relief. The monitoring pressure gauge shall have a range of 0–10 psi with divisions of 0.10 pi and accuracy of 0.05 psid.
3. The air compressor and air supply shall be connected to the test line and the test section filled slowly, until a constant pressure of 4.0 psig is maintained.
4. A pressure above 3.0 psig shall be maintained for at least five minutes to allow the temperature to stabilize. A check for leaks shall be made and if any are found, the pressure shall be released and the fitting replaced or repaired.
5. After the stabilization period, the pressure shall be adjusted to 3.5 psig and the air supply disconnected.
6. Measure and record the time interval for the test line pressure to drop from 3.5 psig to 2.5 psig.
7. If the groundwater table is above the pipe, increase above test pressures 0.5 psig for each foot the groundwater is above the invert of the pipe.
8. The requirements of this specification shall be considered satisfied if the time required in seconds for the pressure to decrease from 3.5 to 2.5 psi greater than the average back pressure of any groundwater that may submerge till pipe is not less than that computed according to the following table:

Minimum Test Time for Various Pipe Sizes

Diameter (Inches)	Time (Sec/100 Ft.)
4	18
6	45
8	75
10	90
12	110

3.05 MANHOLES
A The excavation shall be to the depth indicated on the plans or ordered by the Engineer, and carefully shaped and graded.
B. Manhole sections shall be precast concrete and shall conform to the dimensions indicated on the plans or ordered by the Engineer.
C. Channels, inverts and floor areas for sewer manholes shall be constructed of brick and mortar or concrete. Inverts shall have the exact shape of the sewer to which they are connected and any change in size or direction shall be gradual and even. All construction of sewer manholes must be carried out to insure watertight work.
D. The required courses of brick shall be placed on top of the concrete to the elevation indicated on the plans or ordered by the Engineer. Brick shall be laid in an appropriate ! manner by a competent mason. After the bricks are laid, the joints on the inside of the brick masonry shall be neatly pointed. The outside surface of the brick shall be covered with mortar of the same quality as used for laying the bricks so that a reasonably smooth surface is obtained.
E. The cast iron frame shall be set as indicated on the plans in a full mortar bed. The grade or cover shall be properly placed in the frame.

3.06 MANHOLE TESTING
A. Manholes shall be tested separately by one of the following two procedures:
1. Exfiltration Leakage Test: All pipes and other openings into the manhole shall be suitably plugged and the plugs braced to prevent blowout.
ne manhole shall then be filled with water to the top of the cone section. A period of time may be permitted, if the Contractor so wishes, for absorption. At the end of this period, the manhole shall be refilled to the top of the cone, if necessary, and the measuring time of at least four hours begun. At the end of the test period, the manhole shall be refilled to the lop of the cone, measuring the volume of water added. This amount shall be converted to gallons per vertical foot depth for 24 hours. The leakage for each manhole shall not exceed one gallon/vertical foot. If leakage exceeds the allowable rate, repairs shall be made as approved by the Engineer and the manhole retested. If the Contractor elects to backfill prior to testing, the testing shall be at his own risk, and it shall be incumbent upon the Contractor to determine the reason for any failure of the test. No adjustment in the leakage allowance will be made for unknown causes such as leaking plugs, absorption, etc. It will be assumed that all loss of water during the test is·a result of leaks through the joints or through the concrete. Furthermore, the Contractor shall take any steps necessary to assure the Engineer that the water table is below the bottom of the manhole throughout the test.
2. Vacuum Test: This method of testing manholes for leakage involves the use of a device for sealing the top of the manhole cone section and pumping the air out of the manhole, creating a vacuum and holding this vacuum for a prescribed period of time. The procedure for this test is as follows:
a. All lifting holes and exterior joints shall be filled and pointed with an approved non–shrinking mortar. The completed manhole shall not be backfilled prior to testing. Manholes which have been backfilled shall be excavated to expose the entire exterior prior to vacuum testing or the manhole shall be tested for leakage by means of the exfiltration leakage test.
b. All pipes and other openings into the manhole shall be suitably plugged in a manner to prevent displacement.
c. A plate with an inflatable rubber ring the size of the top of the manhole shall be installed by inflating the ring with air to pressure adequate to prevent leakage of air between the rubber ring and the mannole wall.
d. Air shall then be pumped out of the manhole through an opening in the plate until a vacuum is created inside of the manhole equal to 10 inches of mercury on an approved vacuum gauge. The removal of air shall then be stopped and the test begun.
e. The manhole shall pass this test if the vacuum holds at 1 0" Hg or drops no lower than 9" Hg within the following times:

Depth of 4' Mannole	Time Minutes	Seconds
0'–10'	2	0
10'–15'	2	30
15'–20'	3	0
20'–25'	3	30

f. If the vacuum drop exceeds 1" Hg during the specified time periods, the manhole shall be resealed and Steps 2 through 5 above repeated until the vacuum holds for the specified time.
g. After the manhole passes the vacuum test, it shall be backfilled carefully so that no leaks are created. If the manhole is disturbed in any way during backfill, it shall again be vacuum tested according to Steps 1 through 5 above. If the manhole fails the vacuum test, the Contractor shall test the manhole using the manhole exfiltration test.
h. The Contractor shall provide the Engineer with a written log of each manhole leakage test result.
i. Manholes shall be tested and accepted prior to building manhole inverts.

3.07 PRESSURE PIPE TESTING NOT APPLICABLE
A. General: All force mains shall pass the hydrostatic pressure test and leakage test described herein. Prior to testing, all anchors and braces shall be installed. All concrete thrust blocks and restraints shall be in place and cured at least seven days. All buried pipe shall be backfilled. Suitable test plugs shall be installed and air release valves shall be installed at the high points.
B. Hydrostatic Test: The following procedure shall be used:
1. All air release valves shall be opened and the pipe shall be filled with water at a rate not to exceed the venting capacity of the air release valves.
2. The water pressure shall be raised to 150 percent of the designed operating pressure or 60 psi minimum at the highest point.
3. Failure to hold the designated pressure within 5 psi of the specified test pressure for the two hour period constitutes a failure of the section tested.
C. Leakage Test: The following procedure shall be used:
1. Leakage shall be defined as the quantity of water that must be supplied into the pipe being tested to maintain pressure within 5 psi of the specified test pressure.
2. No pipe installation shall be accepted if the leakage is greater than that determined by the following formula:

L= ND(P)^0.5 /7,400

L= SD(P)^0.5 /133,100

Whichever is less

S = Length of Pipe Testing
L =Allowable Leakage in Gal/Hr
D = Nominal Diameter of Pipe (")
P =Average Test Pressure (psi)
N =Number of Joints in the Pipeline Tested

All testing shall be conducted in accordance with AWWA C600–87 or latest revision.

WATER SUPPLY SYSTEM

PART 1 –GENERAL

1.01 SUMMARY
A. Section includes:
1. Pipe Materials
2. Hydrants
3. Valves
4. Fittings
5. All other appurtenances necessary to complete the water main system as shown on the Contract Plans.

1.02 SUBMITTALS
A. Product Data: Submit published data from manufacturers of products and accessories specified, indicating compliance with requirements to the Engineer and Burlington Public Works specifications.

1.03 QUALITY ASSURANCE
A. All materials and the installation procedure shall be in accordance with the Department of Environmental Conservation, Water Supply Division and the applicable construction ordinances of the local municipality.

PART 2 –PRODUCTS

2.01 GENERAL
A. Furnish ells, tees, reducing tees, wyes, coupling,,, increasers, crosses, transitions and end caps of the same type and class of material as the conduit, or of material having equal or superior physical and chemical properties as acceptable to the Engineer as necessary to complete the water system.

2.02 DUCTILE IRON WATER PIPE
A. Pipe shall be Tyton Ductile Iron Class 52 (sizes as. shown on the plans) conforming to current ANSI/AWWA C 151/A21.51 latest revision. Push–on joint pipe shall be minimum thickness Class 52. Push–on joint accessories shall conform to applicable requirements of ANSI/AWWA C:111/A21.11.
B. Pipe shall be cement mortar lined on the inside in .accordance with ANSI Specification A21.4 except that the cement lining thickness snall not be less than 1/8 inch. A plus tolerance of 1/8 inch will be permitted.
C. Pipe shall be given an interior bituminous coating in accordance with ANSI Specification A21.4 and an exterior bituminous coating of coal, tar or asphalt base in accordance with ANSI Specification A21.51.

2.03 FITTINGS
A. Ductile iron fittings shall conform to AWWA C153 and ANSI Specification A21.1 0, 350 PSI working pressure.
B. All M.J. fittings shall have mega–lug glands for additional joint restraint.
C. Bolts shall conform to ANSI Specification A21.1 0/AWWA C 111.

2.04 TAPPING SLEEVES
A. Tapping sleeves shall be of the split sleeve design,, constructed with two solid half–sleeves bolted together. Sleeves shall be full–wrap and full gasket stainless steel, shall have a working pressure of at least 200 psi, and shall have mechanical joint ends with end and side gasket seals.
B. All iron body tapping sleeves shall be provided with a 3/4" NPT test plug, or other provisions must be made for air testing the valve and sleeve at maximum working pressure, prior to tapping.
C. All bolts and nuts for mechanical joints of tapping sleeves shall be of high–strength cast iron or high–strength, low–alloy steel conforming to ANSI/AWWA C111/A21.11–90.
D. All bolts and nuts for flanged joints of tapping sleeves shall be of AISC Type 304 stainless steel.
E. All bolts and nuts shall be sound, clean, and coated with a rust–resistant lubricant; their surfaces shall be free of objectionable protrusions that would interfere with their fit in the made–up mechanical or flanged joint.
F. All bolts and nuts used with all pipe sleeves shall, upon final tightening and testing, be brush coated heavily with bitumastic cold–applied material to thoroughly cover all exposed surfaces of the bolts and nuts.

2.05 TAPPING VALVES
A. Tapping valves shall conform to ANSI/AWWA C509–87 Standard for Resilient–Seated Gate Valves for Water and Sewage Systems, except as modified herein. Valves shall open clockwise and shall have a minimum working pressure of 200 psi. Inlet flanges shall be Class 125 conforming to ANSI Specification B16.1 or ANSI/AWWA C 11 0/A21.1 0, and outlet connection shall be Standardized Mechanical Joint unless specified otherwise on the Contract Plans for the type of pipe required for the branch or lateral pipeline.
B. Buried tapping valves shall be provided with a 2 inch square wrench nut and shall be installed with a cast iron valve box as required to allow positive access to the valve operating nut at all times. In installations where the depth from grade to top of valve operating nut is greater than 6'0", a valve stem riser shall be provided and installed such that the depth from valve stem riser nut to grade is from 4'0" to 8'0" (minimum length of valve stem riser is 2'0"). Valve stem riser shall be of high strength steel and of welded construction.

2.06 GATE VALVES
A. Valves shall be manufactured to meet all requirements of AWWA Specification C509–87. Valves 12 inches and smaller shall be bubble tight, zero leakage at 200 psi working pressure. Valves shall have non–rising stems, open clockwise, and be provided with a 2 inch square operating nut with arrow cast in metal to indicate direction of opening. Each valve shall have maker's name, pressure rating and year in which manufactured cast on the body. Prior to shipment from the factory, each valve shall be tested by hydrostatic pressure equal to twice the specified working pressure. Gate valves shall be Mueller, Dresser, Kennedy or those approved by the City of Burlington.
B. Buried valves shall be installed with a valve box.

2.07 VALVE BOX
A. Cast iron New England style slide–type, 5 1/4 inch shaft, 6 foot trench depth.
B. Cover shall be cast iron, marked "WATER" and indicating direction of opening.

2.08 HYDRANTS NOT APPLICABLE
A. Mueller or Kennedy M/A ShoeN 5 1/4 A, 24015 I.M.P. with 6 foot minimum bury and National Standard thread. The hydrants shall have at least 12 inches between the bottom of the steamer cap and the ground. The Contractor shall verify the hydrant requirements with the local water department.

2.09 COPPER SERVICES NOT APPLICABLE
A. Corporations shall be Waterworks Brass and manufactured in accordance with AWWA C800. Corporations shall have Mueller threads, adopted as AWWA Figure 1, at the inlet and a compression–type fitting at the outlet. Both inlet and outlet shall be of the same size.
Corporations shall be directly tapped into ductile iron pipe. In no other instance, except when a tapping sleeve and valve is used, shall a tap be made without a Corporation. Corporations shall be Mueller or equal.
B. Curb stops shall be inverted key type manufactured by Waterworks Brass in accordance with AWWA C800. The curb stop shall open left and have a positive stop. No curb slop shall have the ability to drain the service line. Both inlet and outlet of the curb stop shall have compression–type fittings. The tee head of the curb stop shall have provisions for the connection of a service rod. Curb stops shall be Mueller 15200 or approved equal.
C. Copper tubing shall by Type "K", soft temper, conforming to ASTM B88. The name of trademark of the manufacturer and type shall be stamped at regular intervals along the pipe.
D. Curb boxes shall be of the sliding adjustable type capable of adjusting from 5 feet to 6 feet. The base of the box shall be arch type so as to prevent the box from resting directly on the curb stop. The adjustable upper section shall be suitable for use with the associated curo stop.

PART 3 EXECUTION

3.01 INSTALLATION PROCEDURES
A. Installation of all water lines shall be in accordance with AWWA C 600 latest revision. The City of Burlington retains the right to install water system improvements, and must be contacted in advance of any work.
B. All pipe and fittings shall be inspected and tested in accordance with the manufacturer's specifications and the aforementioned AWWA Specifications. The Contractor shall furnish for approval certification from the pipe manufacturer that all tests have been performed with satisfactory results. Pipe shall not be installed without the Engineer's approval.
C. Pipe, fittings, and accessories shall be carefully handled to avoid damage. Prior to the date of acceptance of the project work by the Owner, the Contractor may, at his own expense and with the approval of the Engineer, cut off the cracked portions at a point at least 12" from the visible limits of the crack and use the sound portion of the pipe.
E. All pipe and fittings shall be cleared of all foreign matter and debris prior to installation and shall be kept clean until the time of acceptance by the Owner.
F. The pipe shall be laid to conform to the lines and grades indicated on the drawings or given by the Engineer. Each pipe shall be so laid as to form a close joint with the next adjoining pipe and to bring the inverts continuously to the required grade.
G. At all times, when the pipe laying is not actually in progress, the open ends of the pipe shall be closed by temporary watertight plugs or by other approved means. If water is in the trench when work is resumed, the plug shall not be removed until all danger of water entering the pipe has passed. The pipe shall be installed in trenches and at the line and grade shown on the Contract Plans. Any deflection joints shall be within the limits specified by the manufacturer.
H. All piping and appurtenances connected to the equipment shall be supported so that no strain will be imposed on the equipment. If the equipment manufacturer's specifications include that piping loads are not to be transferred, the Contractor shall submit certification of compliance.
I. For pressure piping, concrete thrust blocks shall be installed at all unrestrained fittings and other locations as indicated on the Contract Plans. Minimum bearing area shall be as shown on the Contract Plans. Concrete shall be 2,500 psi. Concrete shall be placed against undisturbed material and shall not cover joints, bolts or nuts, or interfere with the removal of any joint. Wooden side forms shall be provided for thrust blocks.
J. Reserved.
K. A minimum separation of 18" vertical and 10' horizontal shall be maintained between the outside of all water and sewer lines unless a variance is granted by the Water Supply Division.
L. There shall be no physical connection between the distribution system and any pipes, pumps, hydrants, or tanks which are supplied or may be supplied with a water that is, or may be contaminated.
M. The Contractor shall take all necessary precautions to prevent flotation of the pipe in the trench.
N. All trenching safety standards shall be in conformance with all applicable State and Federal guidelines. The Contractor shall be solely responsible for any safety citations by State or Federal inspectors.

3.02 SETTING OF VALVES AND FITTINGS
A. Valves, fittings, plugs, and caps shall be set and joined to pipe in the manner specified above for laying and joining pipe. sha
B. Valve boxes are to be installed on all buried valves. The boxes shall be cast iron with a minimum 5 1/4" diameter and long enough to extend from the valve to finished grade. The boxes shall enclose the operating nut and stuffing box of the valves. Valve boxes shall not transfer loads onto the valve.
C. Covers shall be close fitting and dirt tight with the top of the cover flush with the top of the box rim. Covers shall be marked "WATER" with an arrow indicating the direction of opening.

3.03 SETTING OF HYDRANTS NOT APPLICABLE
A. Hydrants shall be located as shown or as directed so as to provide complete accessibility and minimize the possibility of damage from vehicles or injury to pedestrians.
B. When placed behind the curb, the hydrant barrel shall be set so that no portion of the pumper or hose nozzle cap will be less than 6 inches nor more than 12 inches from the gutter face of the curb.
C. When set in the lawn space between the curb and the sidewalk, or between the sidewalk and the property line, no portion of the hydrant or nozzle cap shall be within 6 inches of the sidewalk.
D. All hydrants shall stand plumb and shall have their nozzles parallel with or at right angles to, the curb, with the pumper nozzle facing the curb, except that hydrants having two hose nozzles 90 degrees apart shall be set with each nozzle facing the curb at an angle of 45 degrees. Hydrants shall be set to the established grade, with nozzles at least 12 inches above the ground, as shown or as directed by the Engineer.
E. Each hydrant shall be connected to the main with a 6 inch cast iron branch controlled by an independent six inch gate valve, unless otherwise specified.
F. The waste opening of all hydrants will be securely plugged.

3.04 DISINFECTION
A. Disinfection of the pipeline shall be directed by the Engineer and costs for all water, materials, equipment and labor to perform the required testing shall be at the Contractor's expense. AWWA Standard C–651 (latest revision) shall be used &s a basis for the disinfection process. All disinfection/ testing shall be completed by an independent third party unless otherwise approved by the Engineer or local municipality.
B. The Engineer will require as minimum:
1. Complete flushing of the pipeline to wash out all dirt, debris, etc. which may have accumulated in the pipeline during construction.
2. Following flushing (to clean clear water), the Contractor will add chlorine to the entire pipeline volume of water such that the water will have not less than 25 mg/L free chlorine, and let the mixture set for at least 24 hours.
3. After the 24 hour duration, the water in the pipeline shall be tested for residual free chlorine and must contain a minimum of 10 mg/L chlorine. If less than 10 mg/L are found, then the disinfection procedure shall be repeated until at least 10 mg/L chlorine residual is indicated by test..
4. Upon successful completion of the steps above, the pipeline shall be flushed again until the chlorine concentration in the pipeline is no higher than that prevailing in the supply system.

   After this final flushing and before the pipeline is placed in service, bacteriological samples shall be collected on two consecutive days, and submitted to the Vermont Health Department for analysis.

   If the initial disinfection fails to produce samples which pass the Vermont State Health Department requirements for potable drinking water, then the process shall be repeated until satisfactory results are obtained.

   Upon satisfactory results by the Vermont State Health Department, the pipeline may be placed in service.

3.05 PRESSURE AND LEAKAGE TESTS
A. The Contractor shall furnish all gauges, testing plugs, caps and all other necessary equipment and labor to perform leakage and pressure tests in sections of an approved length. Each valved section or a maximum length of 1,000 feet of pipe shall be tested. The Contractor shall provide at his own expense any additional taps to the water line necessary to perform the pressure and leakage test between valves. All disinfection/testing shall be completed by an independent third party unless otherwise approved by the Engineer or local municipality.
B. All water required for testing shall be potable. All testing shall be conducted in the presence of the Engineer.
c. The Contractor shall make the necessary provisions to tap the pipe at the high point to release all air and shall plug same after completing the. test. Hydrants or blowoffs located at high points may be used for air release in lieu of taps if approved by the Engineer.
D. For the pressure test, the Contractor shall develop and maintain for two hours 150% of the working pressure or 200 psi, whichever is greater. Failure to hold within 5 psi of the designated pressure for the two–hour period constitutes a failure of the section tested.
E. No pipe installation shall be accepted if the leakage is greater than that determined by the following formula:

L= ND(P)^0.5 /7,400

L= SD(P)^0.5 /133,200

Whichever is less

S = Length of Pipe Testing
L =Allowable Leakage in Gal/Hr
D = Nominal Diameter of Pipe (")
P =Average Test Pressure (psi)
N =Number of Joints in the Pipeline Tested

All testing shall be conducted in accordance with AWWA C600 (latest revision).

F. Should any section of pipe fail either the pressure or leakage test, the Contractor shall do everything necessary to locate and repair or replace the defective pipe, fittings or joints at no cost to the Owner.

REVISION SCHEDULE		
REVISION DESCRIPTION	DATE	BY

PECHEE
CONSTRUCTION CORPORATION
17 CORPORATE DRIVE, BELMONT, NH 03220
PHONE (603)527-9090 FAX (603)527-9191

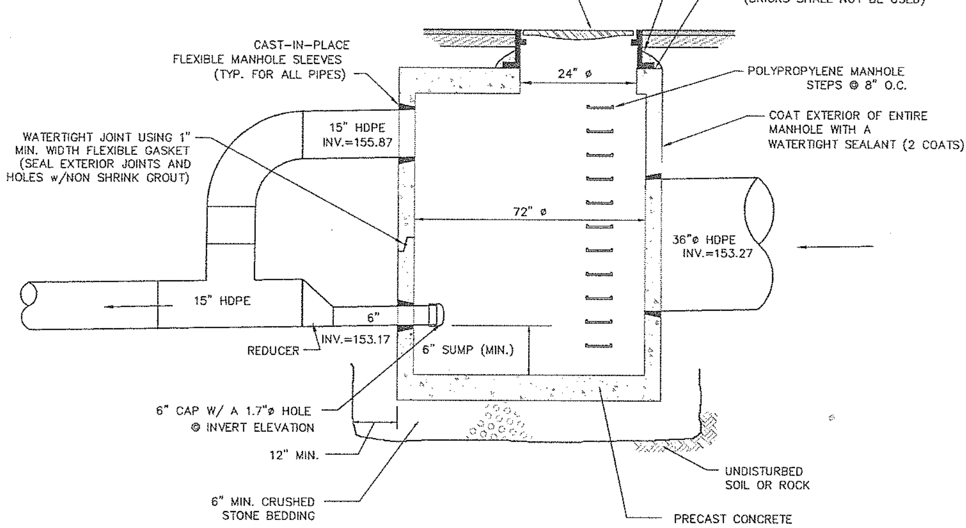
CONSTRUCTION SPECIFICATIONS

PROPOSED HOTEL
BURLINGTON, VT

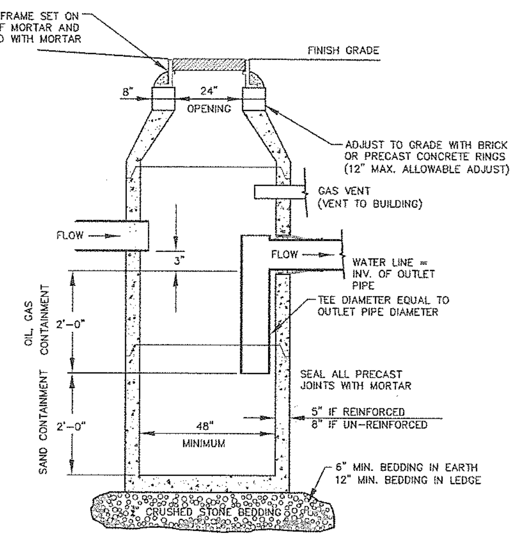
PROJECT:

DATE: 02–13–13
SCALE: AS SHOWN
DRAWN BY: SML

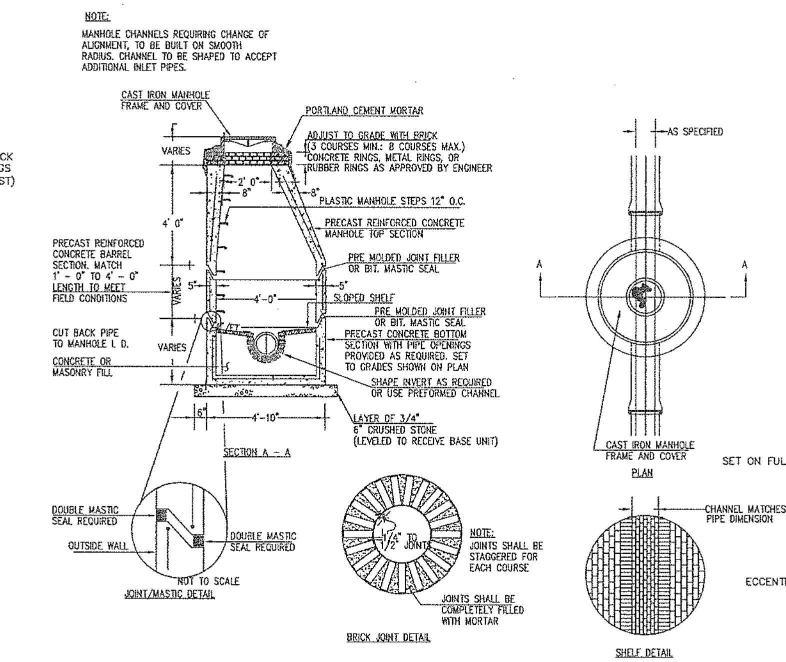
C11
SHEET: 11 OF 20



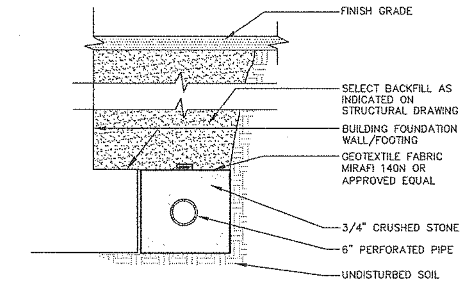
STORM CONTROL STRUCTURE
Not to Scale



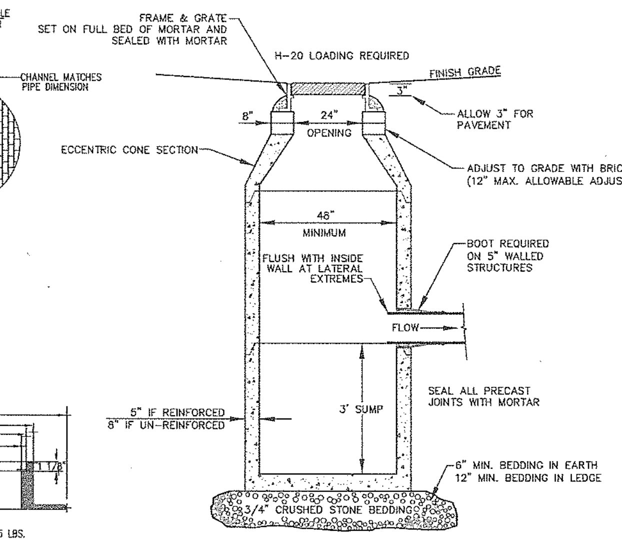
OIL & GAS SEPARATOR
Not to Scale



PRECAST CONCRETE MANHOLE TYPE "A"
NOT TO SCALE

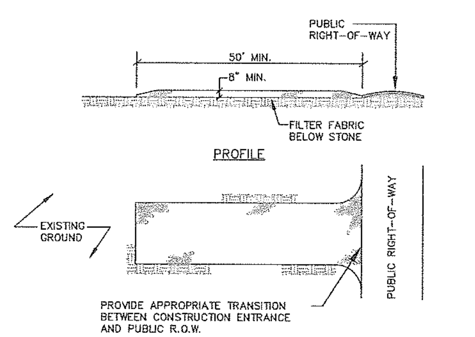


TYP. PERFORATED FOUNDATION DRAIN TRENCH SECTION
NOT TO SCALE



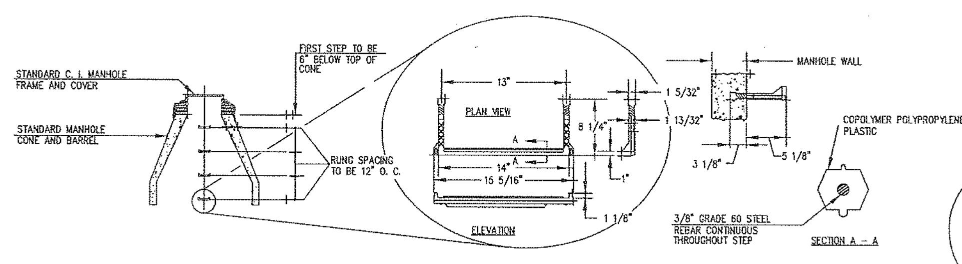
NOTE: PRECAST CATCH BASINS TO CONFORM TO ASTM C-474.

CATCH BASIN DETAIL

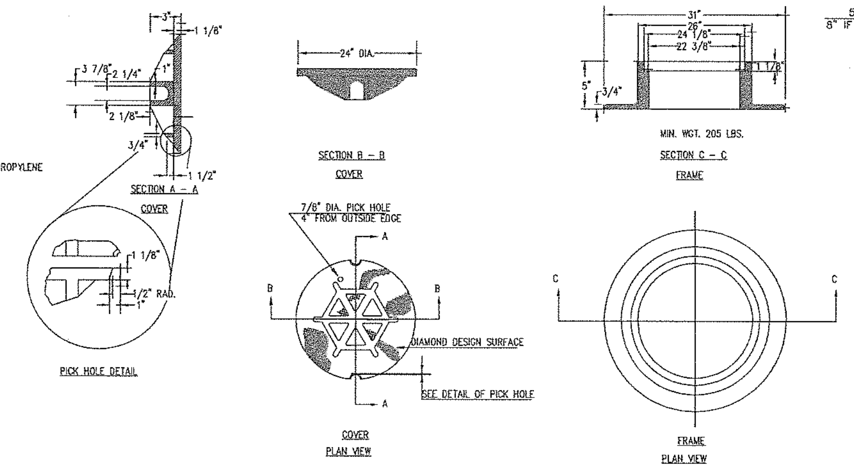


NOTES:
1. STONE SIZE- USE A MATRIX OF 1" TO 4" STONE OR RECLAIMED OR RECYCLED CONCRETE EQUIVALEENT.
2. LENGTH- AS SHOWN ON PLANS, MIN. 50 FEET.
3. THICKNESS- NOT LESS THAN EIGHT (8) INCHES.
4. WIDTH- NOT LESS THAN FULL WIDTH OF ALL POINT OF INGRESS OR EGRESS.
5. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN-OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

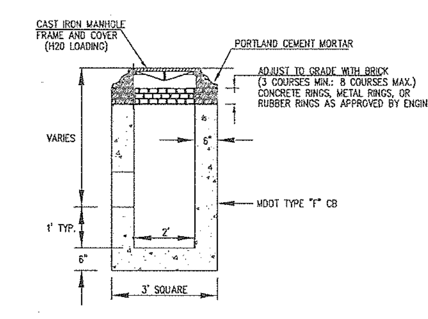
STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



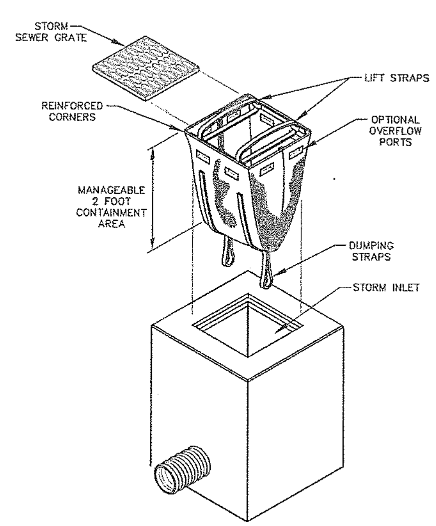
PLASTIC MANHOLE STEPS
NOT TO SCALE



TYPE "A" CAST IRON MANHOLE COVER AND FRAME
NOT TO SCALE



FLOOR DRAIN (FD)
FIRST FLOOR
NOT TO SCALE

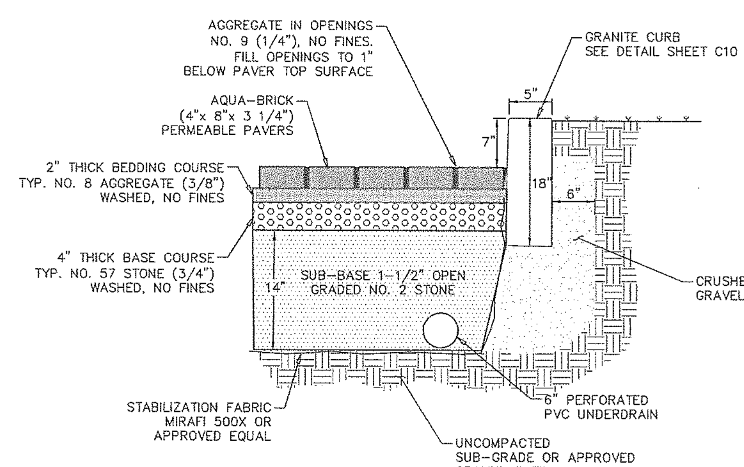


INSTALLATION:
1. REMOVE THE GRATE FROM THE CATCH BASIN
2. IF USING OPTIONAL OIL ABSORBENTS, PLACE PILLOW IN POUCH, ON BOTTOM OF THE UNIT
3. STAND THE GRATE ON END. MOVE THE TOP LIFTING STRAPS OUT OF THE WAY AND PLACE THE GRATE INTO THE DANDY SACK SO THAT THE GRATE IS BELOW THE TOP STRAPS AND ABOVE THE LOWER STRAPS.
4. HOLDING THE LIFTING STRAPS, INSERT THE GRATE INTO THE INLET.

MAINTENANCE:
1. REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM VICINITY OF THE UNIT AFTER EACH STORM EVENT.
2. AFTER STORM EVENT AND AT REGULAR INTERVALS, LOOK INTO THE DANDY SACK. IF THE CONTAINMENT AREA IS MORE THAN ⅓ FULL OF SEDIMENT, THE UNIT MUST BE EMPTIED.
3. TO EMPTY UNIT, SIMPLY LIFT THE UNIT OUT OF THE INLET USING THE LIFTING STRAPS AND REMOVE THE GRATE.
4. IF USING OPTIONAL OIL ABSORBENTS, REPLACE ABSORBENT PILLOW WHEN NEAR SATURATION.

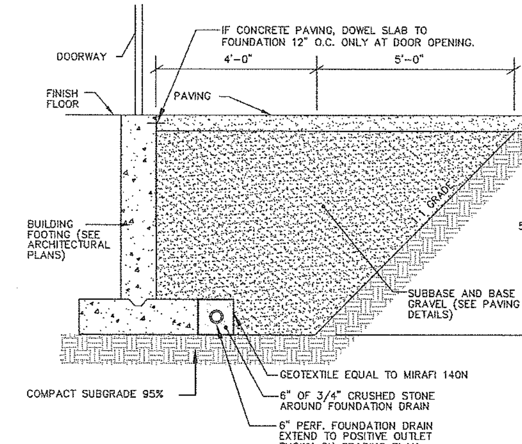
FOR MORE INFORMATION GO TO WWW.DANDYPRODUCTS.COM

DANDY SACK™
Not To Scale

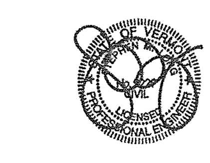


CONSTRUCTION NOTE:
MAXIMUM LIFT HEIGHT=12". ALL LIFTS TO BE COMPACTED USING 10-15 TON SMOOTH-DRUM VIBRATORY ROLLER

PERMEABLE PAVERS
NOT TO SCALE



5' GRANULAR BASE @ DOOR THRESHOLD
NOT TO SCALE



REVISION SCHEDULE

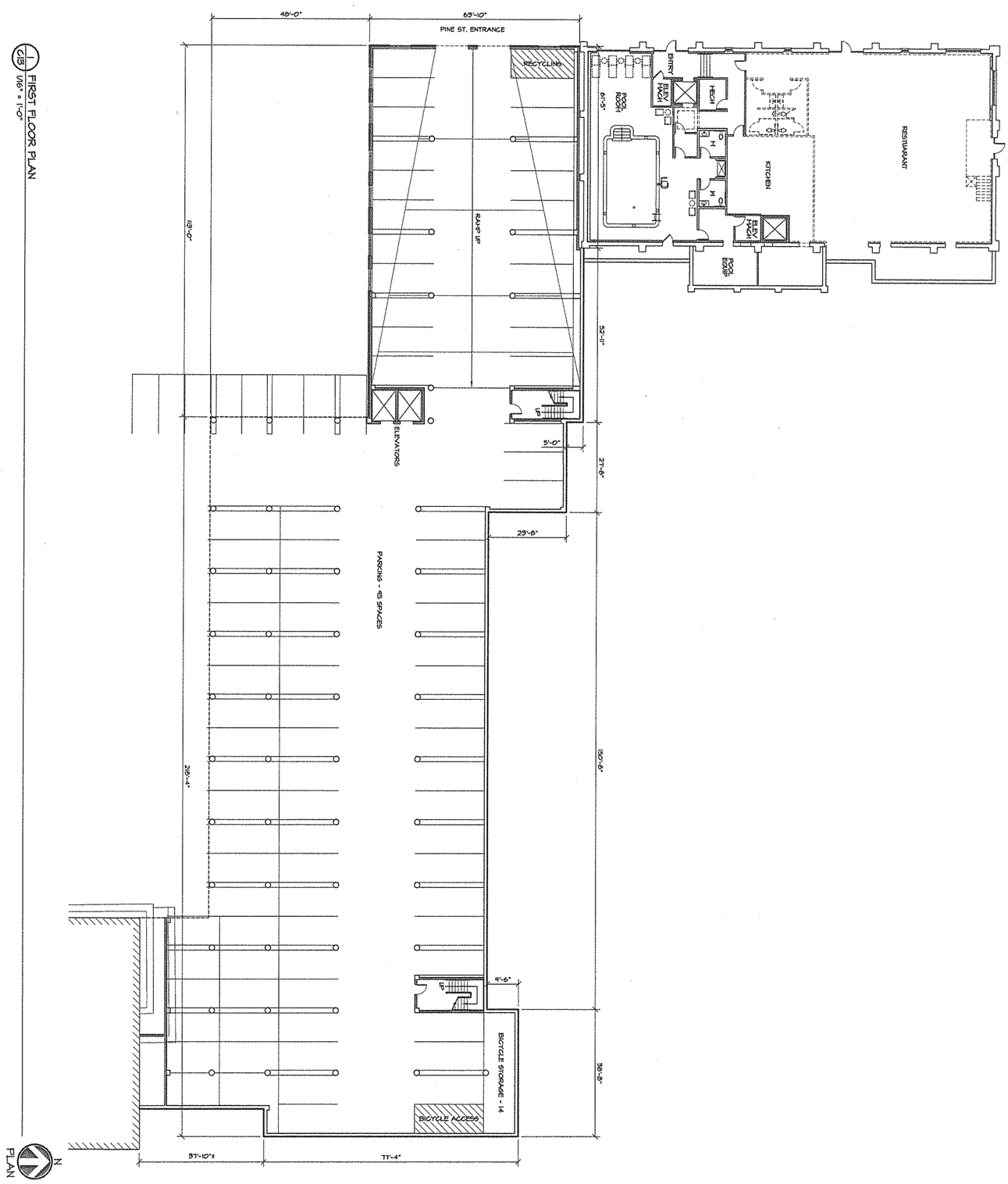
DATE	REVISION DESCRIPTION	BY

OPECHEE CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

DRAINAGE DETAILS

PROJECT: PROPOSED HOTEL
BURLINGTON, VT

DATE: 02-13-13
SCALE: 1"=20'
DRAWN BY: SML
C12
SHEET: 12 OF 20



C1B FIRST FLOOR PLAN
1/16" = 1'-0"

N
PLAN

RECEIVED
MAR 27 2013
DEPARTMENT OF
PLANNING & ZONING

PROJECT:
PROPOSED
HOTEL
BURLINGTON, VT

FIRST FLOOR
PLAN

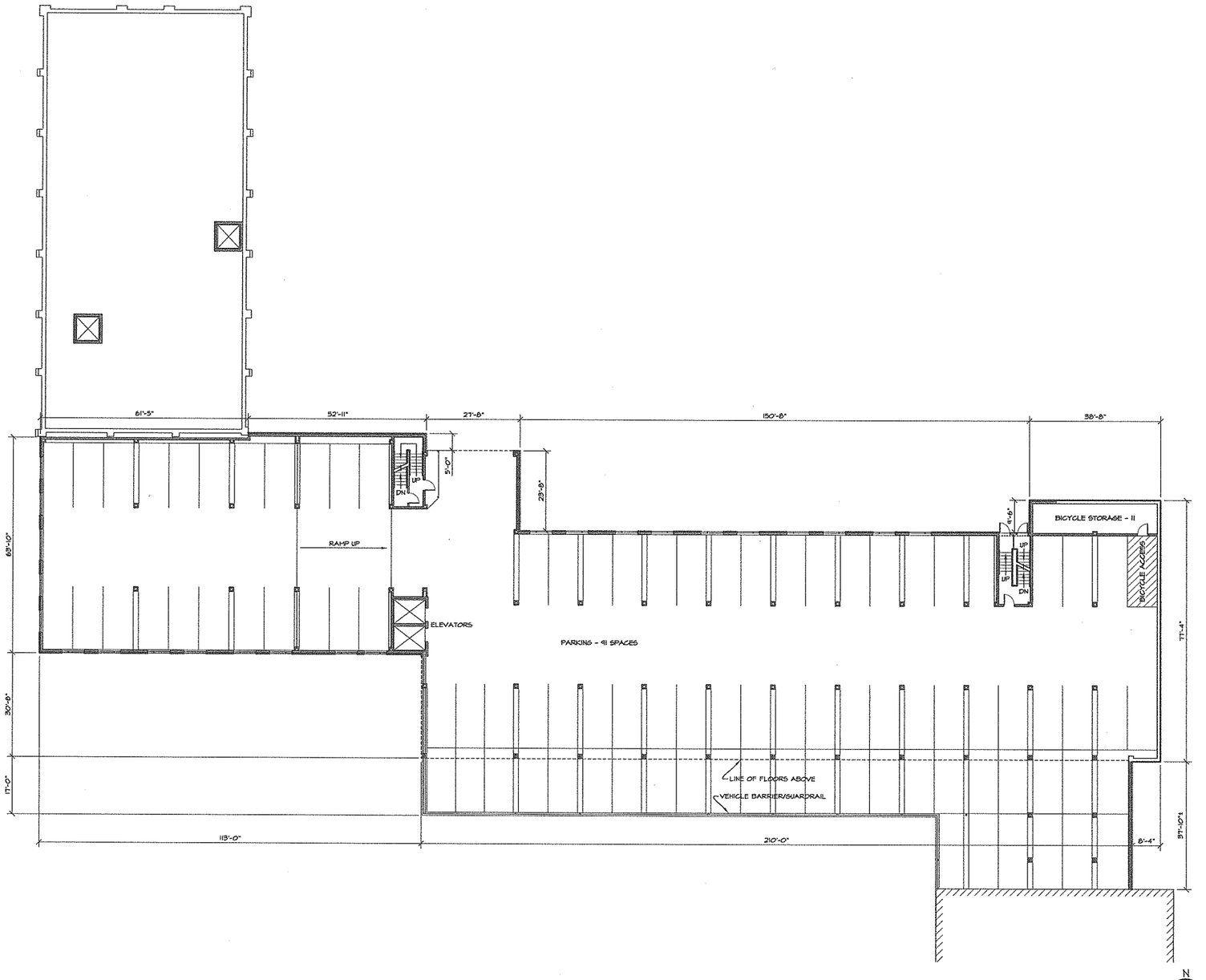
DATE: 02/13/13
SCALE: 1/16" = 1'-0"
DRAWN BY: JJD

C1.3
SHEET: 13 of 20

COPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603)527-9191

REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY



1/C14 SECOND FLOOR PLAN
1/16" = 1'-0"

RECEIVED
MAR 27 2013
DEPARTMENT OF
PLANNING & ZONING

REVISION SCHEDULE			
DATE	REVISION DESCRIPTION		BY

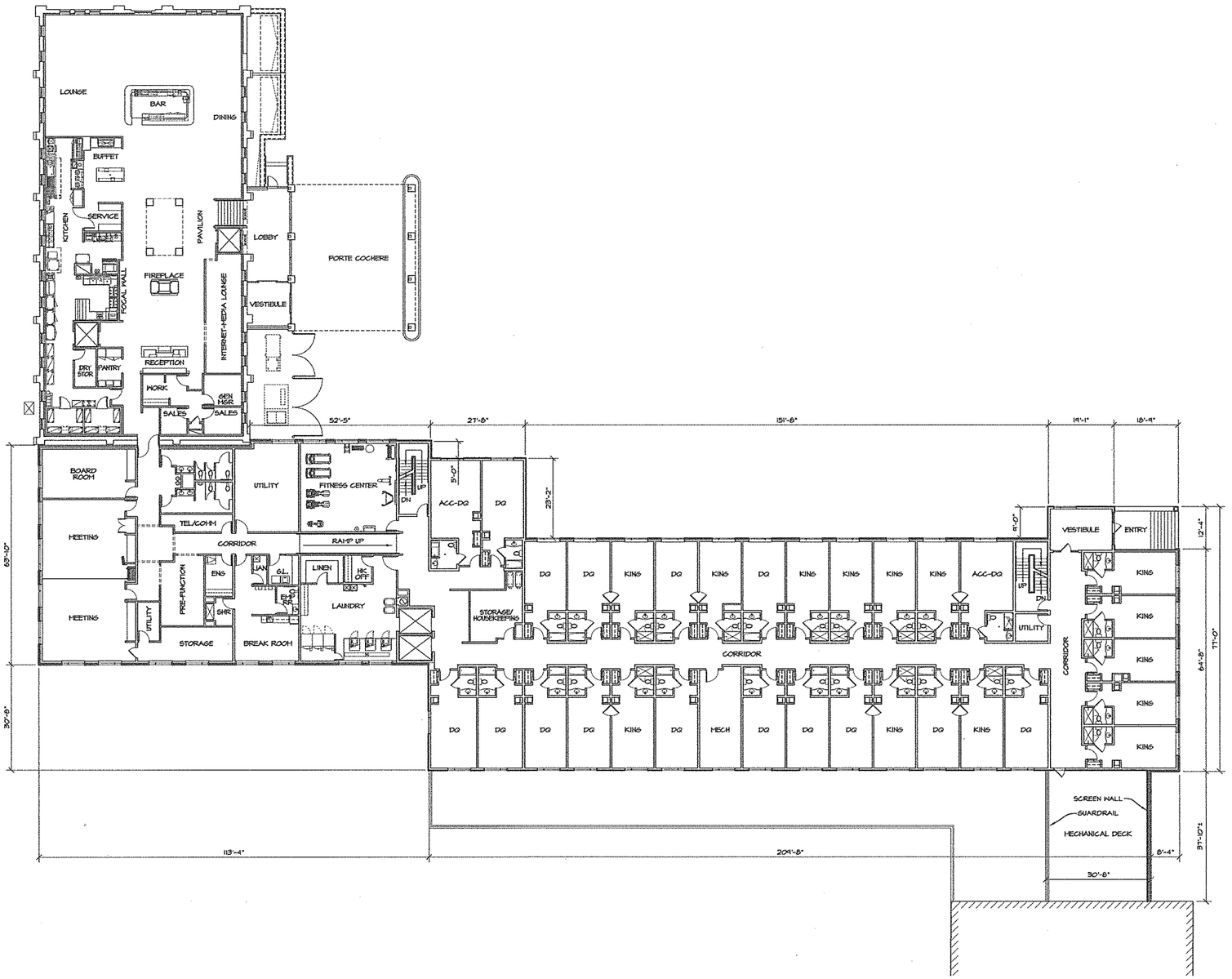
COPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

SECOND FLOOR PLAN

PROJECT:
PROPOSED HOTEL
BURLINGTON, VT

DATE: 02/13/13
SCALE: 1/16"=1'-0"
DRAWN BY: JJD

C14
SHEET: 14 of 20



1 / C15 THIRD FLOOR PLAN
1/16" = 1'-0"

N
PLAN

REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY

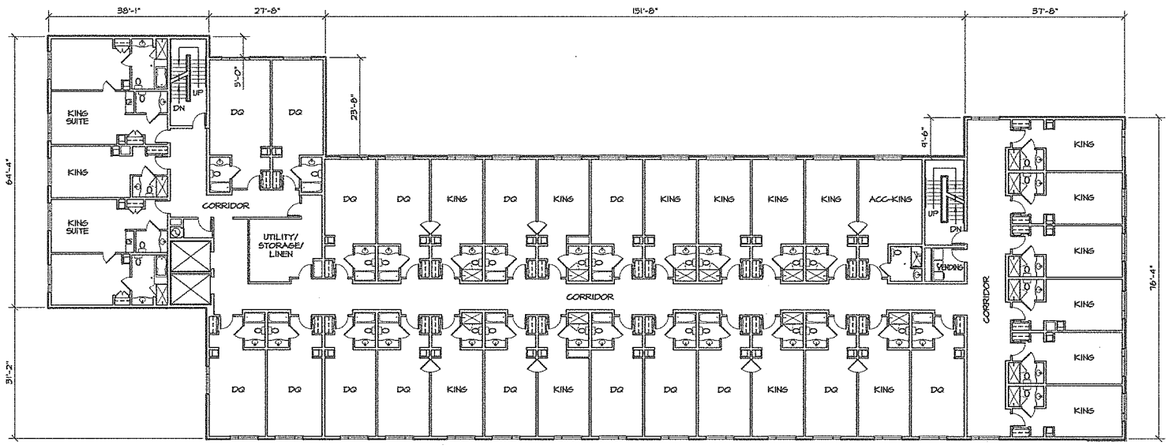
COPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603)527-9999 FAX (603)527-9191

THIRD FLOOR PLAN

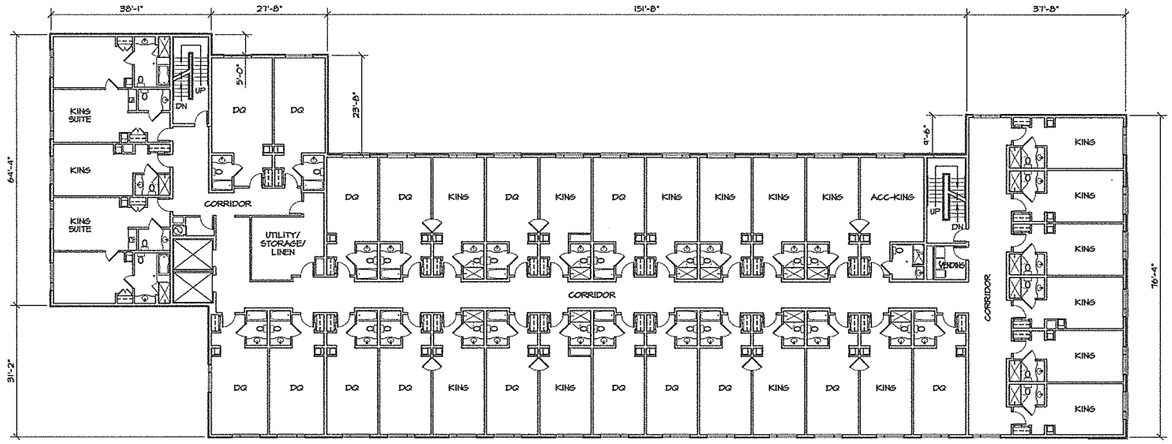
PROJECT: PROPOSED HOTEL
BURLLINGTON, VT

DATE: 02/13/13
SCALE: 1/16"=1-0"
DRAWN BY: JJD

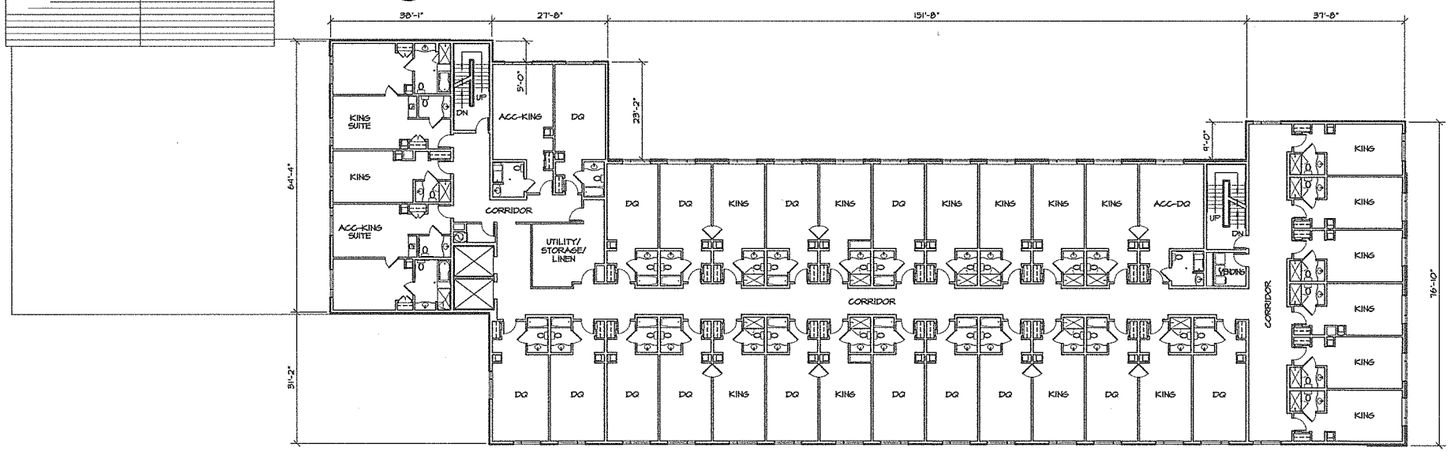
C15
SHEET: 15 of 20



3/C16 SIXTH FLOOR PLAN
1/16" = 1'-0"



2/C16 FIFTH FLOOR PLAN
1/16" = 1'-0"



1/C16 FOURTH FLOOR PLAN
1/16" = 1'-0"

N
PLAN

REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY

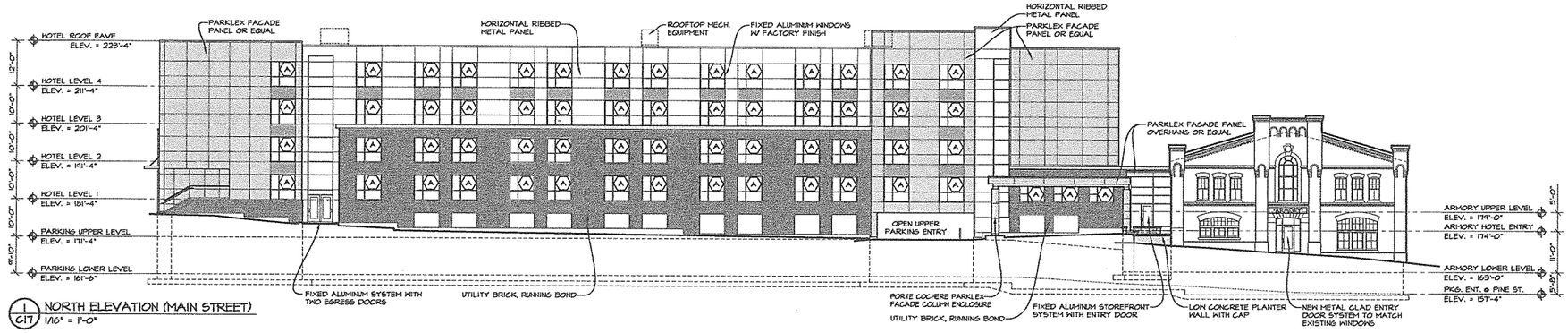
OPECHEE
CONSTRUCTION CORPORATION
11 ROOSEVELT DRIVE, BELMONT NH 03220
PHONE (603)527-9090 FAX (603)527-9191

4TH / 5TH / 6TH FLOOR PLANS

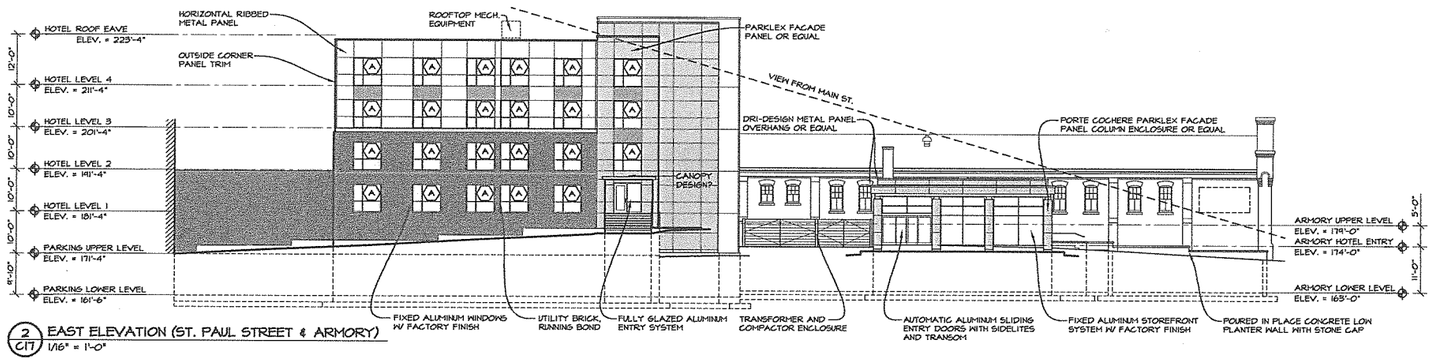
PROJECT: PROPOSED HOTEL
BURLLINGTON, VT

DATE: 02/13/13
SCALE: 1/16"=1'-0"
DRAWN BY: JJD

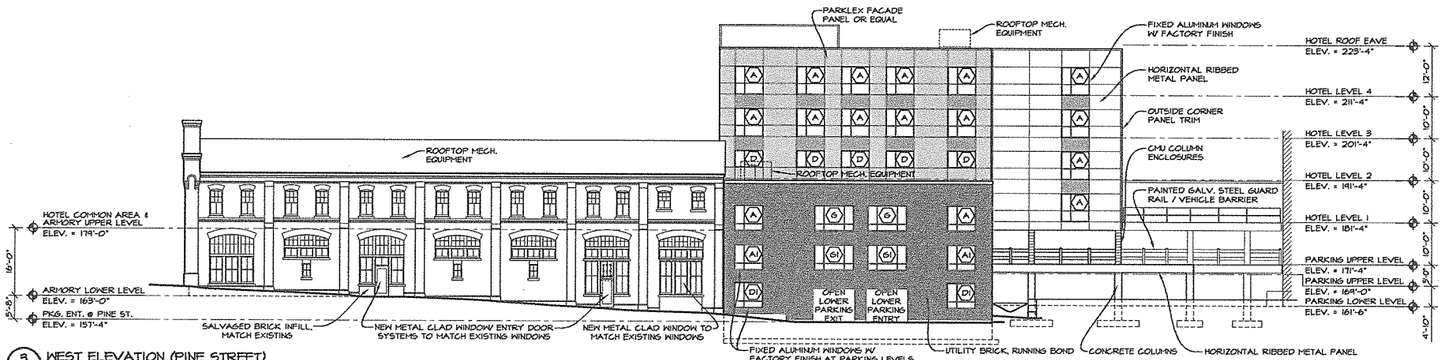
C16
SHEET: 16 of 20



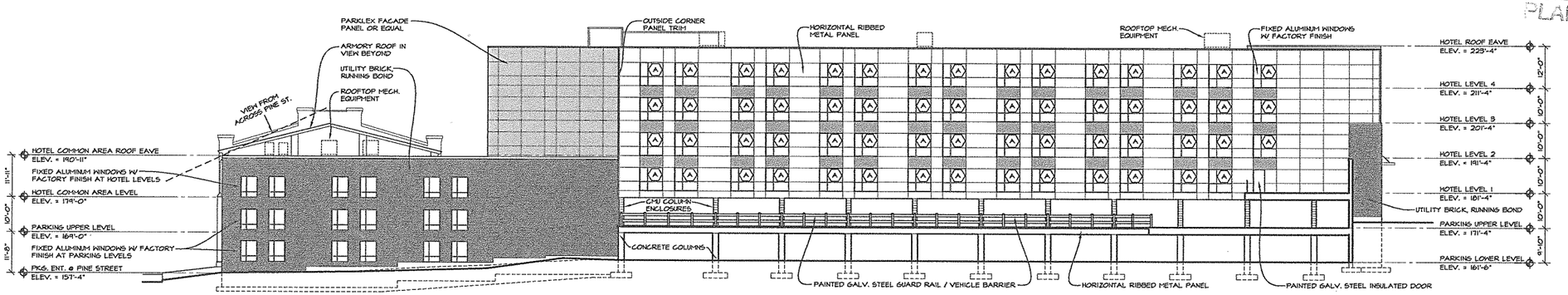
1 C17 NORTH ELEVATION (MAIN STREET)
1/16" = 1'-0"



2 C17 EAST ELEVATION (ST. PAUL STREET & ARMORY)
1/16" = 1'-0"



3 C17 WEST ELEVATION (PINE STREET)
1/16" = 1'-0"



4 C17 SOUTH ELEVATION (KING STREET)
1/16" = 1'-0"

REVISION SCHEDULE		
DATE	REVISION DESCRIPTION	BY
03/26/13	REVISED BUILDING MATERIALS AND WINDOWS.	JJD

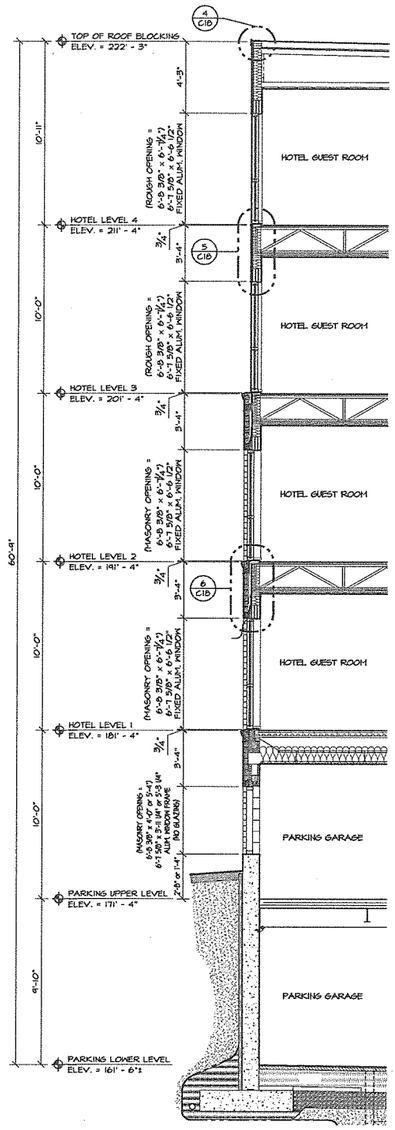
COPECHEE CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603)527-9000 FAX (603)527-9191

EXTERIOR BUILDING ELEVATIONS

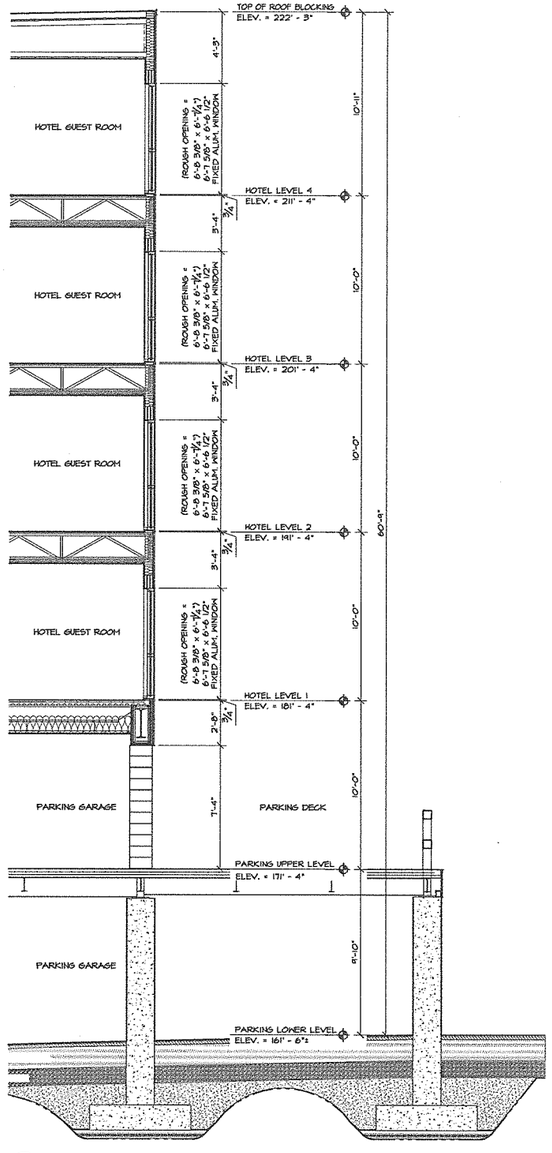
PROJECT: PROPOSED HOTEL
BURLLINGTON, VT

DATE: 02/13/13
SCALE: 1/16"=1'-0"
DRAWN BY: JJD

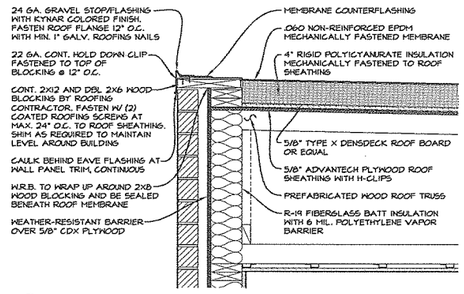
C17
SHEET: 17 of 20



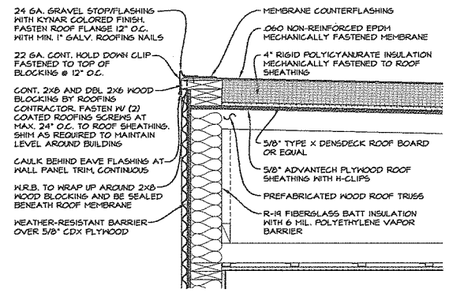
1 C18 WALL SECTION (MAIN ST. ELEVATION)
1/4" = 1'-0"



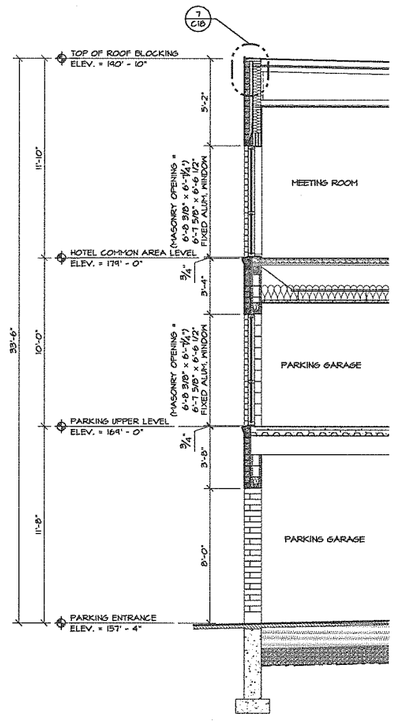
2 C18 WALL SECTION (KING ST. ELEVATION)
1/4" = 1'-0"



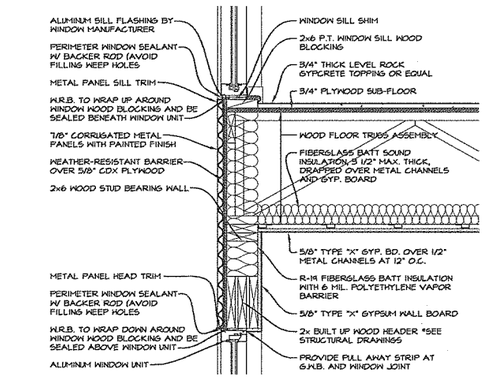
7 C18 SECTION DETAIL
1" = 1'-0"



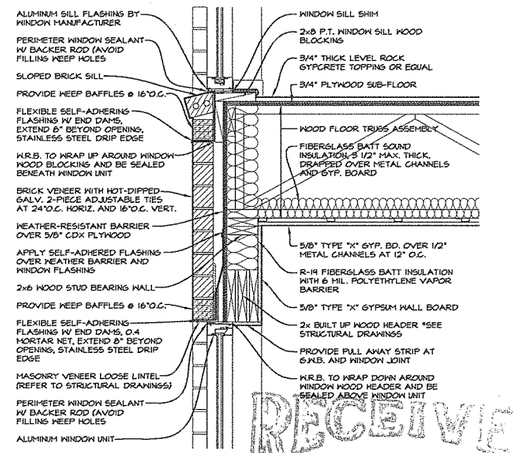
4 C18 SECTION DETAIL
1" = 1'-0"



3 C18 WALL SECTION (PINE ST. ELEVATION)
1/4" = 1'-0"



5 C18 SECTION DETAIL
1" = 1'-0"



6 C18 SECTION DETAIL
1" = 1'-0"

REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY

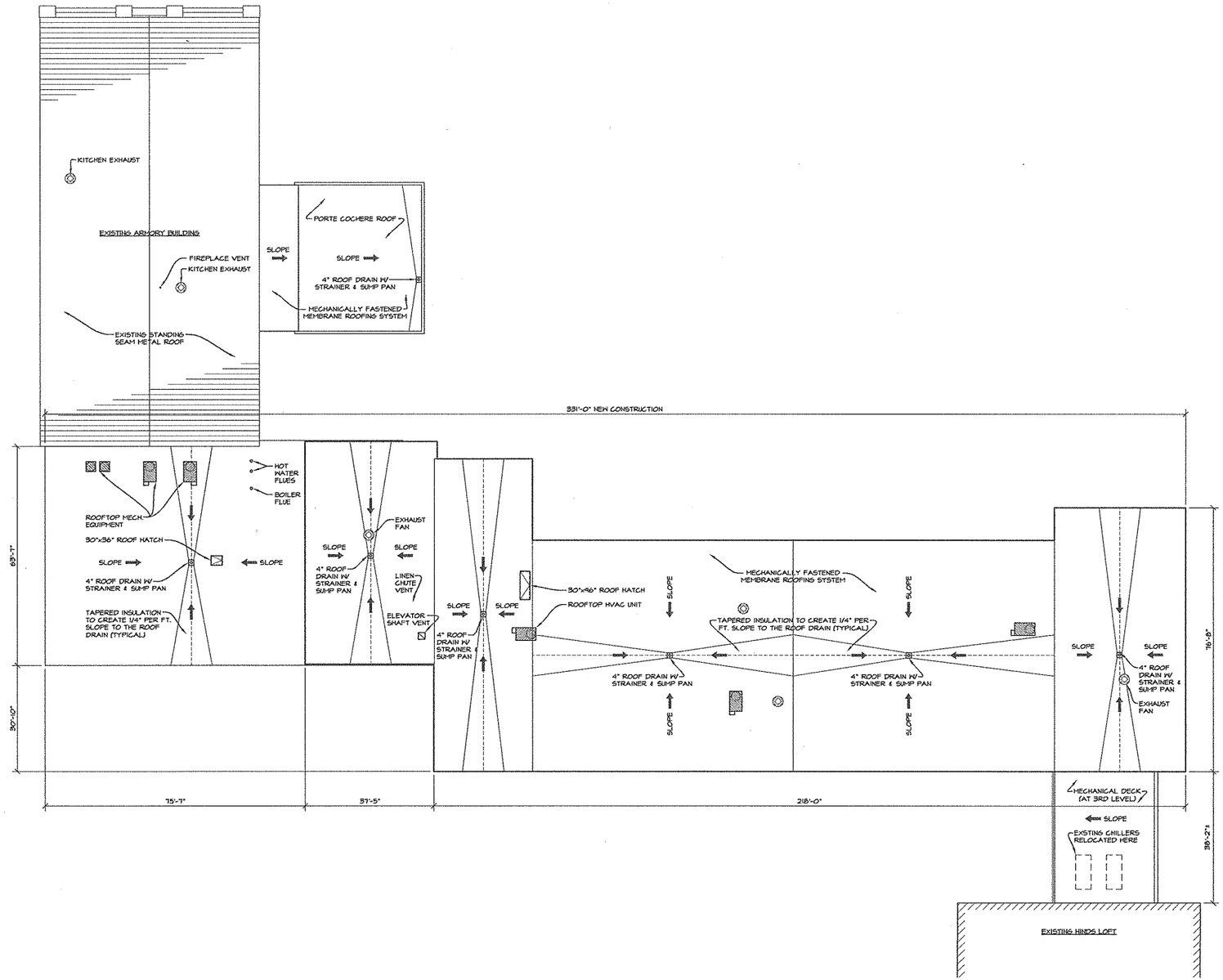
OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9999 FAX (603) 527-9191

WALL SECTIONS

PROJECT: PROPOSED HOTEL
BURLINGTON, VT

DATE: 02/13/13
SCALE: SEE PLAN
DRAWN BY: JJD

C18
SHEET: 18 of 20



1/C19 ROOF PLAN
1/16" = 1'-0"

PLAN

REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY

OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

ROOF PLAN

PROJECT:
PROPOSED HOTEL
BURLINGTON, VT

DATE: 02/13/13
SCALE: 1/16" = 1'-0"
DRAWN BY: JJD

C19
SHEET: 19 of 20

2 C20 SECOND FLOOR GARAGE LIGHTING PLAN
1/16" = 1'-0"

1 C20 FIRST FLOOR GARAGE LIGHTING PLAN
1/16" = 1'-0"

SYMBOL	CATALOG NUMBER	DESCRIPTION	LAMP	HEIGHT
◎	PETROLUX PLED70B54 LSH	CEILING MTD.	70 W. LED	7'-8"

GARAGE LIGHTING STATISTICS

MAXIMUM LIGHTING LEVEL-10.0 FC

MINIMUM LIGHTING LEVEL-1.0 FC

UNIFORMITY RATIO-10:1

LIGHTING POWER DENSITY @ FIRST FLOOR- 0.06 W/S.F.

LIGHTING POWER DENSITY @ SECOND FLOOR- 0.07 W/S.F.

N

PLAN

RECEIVED
MAR 27 2013
DEPARTMENT OF PLANNING & ZONING

REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY

COPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603)527-9991 FAX (603)527-9151

GARAGE LIGHTING PLAN - LED

PROJECT:
PROPOSED HOTEL
BURLINGTON, VT

DATE: 02/13/13
SCALE: 1/16" = 1'-0"
DRAWN BY: JJD

C20
SHEET: 20 of 20

South Elevation (King Street)

North Elevation (Main Street)

Building Elevations

PROPOSED HOTEL

Burlington, VT

OPECHEE
CONSTRUCTION CORPORATION

West Elevation (Pine Street)

East Elevation (St Paul Street & Armory)

March 26, 2013

Building Elevations

PROPOSED HOTEL

Burlington, VT

OPECHEE
CONSTRUCTION CORPORATION